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# DEFENCE OF PHRENOLOGY:

CONTAINING,

I.—AN ESSAY ON THE NATURE AND VALUE OF PHRENOLOGICAL EVIDENCE;

II.—A VINDICATION OF PHRENOLOGY AGAINST THE ATTACK OF DR. JOHN AUGUSTINE SMITH;

III.—A VIEW OF FACTS RELIED ON BY PHRENOLOGISTS AS PROOF THAT THE CEREBELLUM IS THE SEAT OF THE REPRODUCTIVE INSTINCT.

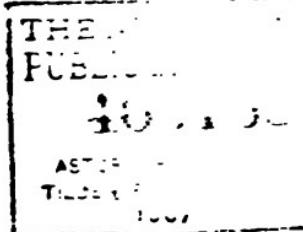
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## A D V E R T I S E M E N T.

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In the year 1840, Dr. John Augustine Smith published a volume, entitled "Select Discourses on the Functions of the Nervous System, in Opposition to PHRENOLOGY, Materialism, and Atheism." Of these discourses, so far as they related to Phrenology, I wrote a review, which appeared in the American Phrenological Journal, in the months of April, May, and June, of the year 1841. After its appearance, some friends of Phrenology expressed the opinion that a republication of that review in a form which would bring it before others than Phrenologists, (to whom the circulation of the Journal was almost exclusively confined,) would promote the progress of the science in defence of which I had written. That opinion, and the interest I felt in the subject, induced me to determine on such republication; but, in order to render my defence of Phrenology more complete, I added two articles thereto—namely, the first and third parts of this volume. An agreement for the publication of the work was entered into with a New York publisher; but, before his arrangements were completed, a fire occurred, through which his business was for a long time suspended. At his request, I waited for its revival; but, when he was again resuming his preparations for the publication, he was seized with a sickness which proved fatal. I mention these things to account for the delay in this publication. By reason of the obstacles before mentioned, and the increasing cares of professional avocations, I almost lost sight of the subject; and doubtless I never should have taken the manuscript from its resting-place but for the obligation I have felt resting on me to give to the public the letters addressed to me, contained in the first part of this book. Some recent articles adverse to Phrenology, in leading periodicals, and the republication of European works in opposition thereto, have reminded me of my obligation, and occasioned the fulfilment of what I had come to look upon as an unpleasant duty.

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I present the work exactly as I prepared it, (with the exception of a few pages, the manuscript of which had been in the possession of the publisher before alluded to, and which I never got back.) This will account for the omission of such other corroborative proofs of the truth of phrenology as have since come to light.

An edition of the first two parts of the work is published for general distribution; the three parts together being more particularly intended for professional men.

**ANDW. BOARDMAN.**

## P R E F A C E .

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FROM its announcement, Phrenology has been opposed by the elder teachers of philosophy and science, who, naturally enough, manifest great reluctance to descend from the chair to the form. That they should hasten to acknowledge doctrines which prove the erroneousness of much that they have for years been teaching, cannot be expected. Of opposition, therefore, Phrenologists complain not; but they do complain that it has been characterized by misrepresentation and invective. In misrepresentation, the author of the "Select Discourses" is not a whit inferior to his predecessors. Of invective, however, he makes less use; and there is in his work a plausible assumption of liberality and frankness, of superior knowledge, judgment, and logical acumen, adapted to win the favor of the amiable and cultivated. Besides this, the professional rank of Dr. Smith imparts to his opposition great extrinsic force; for the many ask not so much the reason of what is said, as who he is that says it. As in the physical, so in the moral world, the efficiency of a missile depends less on its weight than on the skill with which it is aimed and the height from which it is cast. These remarks will explain the ground of whatever importance I attach to the attack of the Professor. It is formidable neither from the nature of its facts nor the soundness of its arguments, but from its imposing style and the high position of its author.

My object in the following work has, however, been far more comprehensive than that of furnishing a vindication of Phrenology against the objections contained in the "Select Discourses." I have endeavored to show the reasonable ness of Phrenology, and to present strong evidence of its truth. In doing this, I have attempted to expose the false method of our antagonists, exhibit the harmony of Phrenology with the acknowledged facts of physiology and mental philosophy, and to prove that there is the same sort of evidence in its favor as that on which men in general implicitly rely in their belief of any proposition whatever: namely, the testimony of men of acknowledged integrity and capacity, who have had ample means of investigation,

have faithfully employed those means, and who unite in testifying to the correctness of Phrenological conclusions; thus making out in favor of Phrenology a strong presumptive case of truth, which renders it unwarrantable, I humbly maintain, for any man, however high his name or station, to express hostility before fairly investigating its merits, and being able to produce indubitable facts incompatible with its doctrines. To prove that it is not after such investigation that Phrenology is assailed, I review the objections of Professor Smith, which include almost all that have ever been urged against our science, and expose their errors and fallacies. Finally, for the threefold purpose of placing the ignorance of our opponents beyond a doubt, of demonstrating the existence of at least one distinct organ, and of laying before the medical profession of America a subject of high interest and importance, I give a systematic synopsis of facts, proving, as appears to me, beyond controversy, that the cerebellum is the seat of the reproductive instinct; a doctrine, in support of which there exists not, according to Professor Smith, a single fact.

Of the delicate nature of the last-mentioned subject, I am fully aware. It is one, however, on which the Professor has distinctly joined issue, and we cannot, by our silence, allow him to retard the progress of sound physiology, and enjoy a seeming triumph; and though the subject be one of delicacy, the man of science will commend, while the enlightened moralist will not disapprove its proper presentation. "To the pure all things are pure," is the beautiful maxim of St. Paul: the scientific inquirer, as such, knows nothing of impurity; his subject is Nature, his object, Truth—and whether ascertaining the laws which govern the heavenly bodies, or investigating an animal instinct, his employment is equally sanctifying and ennobling. He is unveiling the mysteries of creation, and becoming more deeply conversant with the all-pervading influence and harmony of the Creator's laws. If I mistake not, the Essay on the Functions of the Cerebellum presents to the physician a physiology and pathology on which his treatment may be surely based; affords valuable guidance in the education of youth, and striking instances of the natural sanctions by which the dictates of enlightened morality are guided and enforced.

# A DEFENCE OF PHRENOLOGY.

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## PART I.

### AN ESSAY ON THE NATURE AND VALUE OF PHRENOLOGICAL EVIDENCE.

IT is now universally conceded by physiologists that the brain is the organ of the mind, and that the functions of the brain are worthy of the most careful and laborious investigation. To the defence and advocacy of the doctrine of the functions of the brain, propounded by Dr. Gall, and commonly known by the term Phrenology, this work is devoted. It is important to the completeness of this defence, that it should be made manifest that the phrenologists have pursued, in arriving at their conclusions, that method of investigation which has the sanction of reason and experience ;—in short, that their doctrines are the result of a large induction of appropriate facts.

I use the term *appropriate* facts advisedly, because many opponents of phrenology have been laborious investigators of the functions of the brain, and yet have failed to arrive at the truth, because of their vicious method of investigation.

The more ancient doctrines of the nature and use of the brain, are not worth mentioning as matters of science ;—they are merely curious examples of the crude notions on this subject entertained by the learned. The brain has been regarded as a sponge, attracting to itself the humidity of the body ; as a cold, humid mass, destined to temper the heat of the heart ; as an excrescence of the spinal marrow, and as a secreting

gland. Even the celebrated Bichat saw in it nothing more than an envelope to secure the parts on the internal base of the brain. Ludovico Dolci, and others, maintained that the cerebellum must be the seat of memory ; because its low and out-of-the-way situation so admirably fitted it for a mental store-house.

From such conjectures and fantasies, we pass to investigations having for their express object the ascertainment of the functions of the brain, but pursued by erroneous methods. Prominently among these methods stands out mutilations of the brain in living animals. Rolando, Flourens, Bouillaud, and Magendie, were among the chief of this class of investigators ; but the results of their experiments are so various and contradictory, that it is now admitted by the ablest physiologists that the cutting up of the living brain, as a means of ascertaining its functions, ought to be abandoned. The reasons against this method of investigation are very clearly stated by Mr. Combe, in an article in the Phrenological Journal, Vol. X., page 556. Four conditions are necessary to its success. Firstly. The part injured must be a distinct organ, with a specific function. Secondly. The part injured must be such that it can be cut without involving the disorder of the functions of other parts. Thirdly. The functions of the part cut must be known. And, Fourthly. After the operation, the state of these functions must be within the reach of observation. When, however, Flourens proceeded to cut out of living animals different parts of the brain, all these conditions were wanting ; for, Firstly. He could not say whether the parts cut away were or were not distinct organs. Secondly. These parts could not be laid open and cut away without involving the functions of the nervous system generally. Thirdly. He did not know beforehand what mental power the destroyed part manifested, and could not, therefore, judge of the suppression. And, Fourthly. The animals were not, after the operations, in a condition of health, or placed in external circumstances calculated to show whether they were or were not

capable of manifesting any propensity which might be connected with the injured organs: The experimenters proceeded on the assumption that *nothing* was known of the functions of the brain, and yet they expected to discover the functions of the mutilated or excised parts by observing the powers which were *not* manifested when they were injured or destroyed! It is acknowledged that no reliable discoveries have been made as to the functions of the brain by means of these ablations and mutilations. The absurdity of this method of investigation would probably have been sooner acknowledged but for the hope entertained by some who had committed themselves against phrenology, that the experiments would in some way militate against its doctrines.

Sir Everard Home and others have proposed to ascertain the functions of the brain by observing *post mortem* appearances in cases where there had been functional derangement. The difficulties in the way of discovering the functions of the brain in the way proposed, become sufficiently clear on even slight investigation. In the first place, it is well known that great functional derangement of a part often takes place without any visible organic lesion. In the second place, mental aberrations are often sympathetic in their origin, being symptomatic of disease in the stomach or the heart. In the next place, it usually happens that, before death ensues, a complication of diseases exists, which gives rise to great difficulty in assigning to each organic lesion its appropriate kind and degree of symptomatic derangement. Lastly and chiefly, Sir Everard Home and his followers commenced their investigations in ignorance of the functions of the various parts of the brain, without knowledge or agreement as to what are distinct faculties of the mind, and even doubting or denying that the brain is a congeries of organs. How, then, when an organic lesion of the brain was found, could they tell with the derangement of what particular function to connect it? But, indeed, this method of investigation has been very little relied on by physiologists, and has been productive of no discoveries as to

the functions of the brain. It is only *after* the functions of the several organs of the brain have been ascertained, that the connection between organic lesion and functional derangement can be successfully observed.

The method of Dr. Gall differed from all these. Starting with the doctrines that the brain is the organ of the mind, and that size is one great element of power, he observed great differences in the manifestation of the same talents and dispositions in different individuals, and of various talents and dispositions in the same person. He also observed great differences in the form and size of the brain in different individuals, and great differences in the development of the various parts of the brain in the same person. He met with persons who manifested a particular talent or disposition with predominating energy; in these persons he also observed a particular part of the brain in corresponding excess. He met with others in whom the same talent or disposition was very feebly manifested; and he observed the same part of the brain correspondingly deficient in development. The idea of this correspondence between the power of a particular talent or disposition, and the development of a particular part of the brain, having been once obtained, Gall followed up his observations with untiring assiduity, comparing cerebral development and mental manifestation until he had accumulated a large number of instances, and found that large development of a particular part of the brain is invariably associated with the powerful manifestation of a particular faculty of the mind, and that deficient development of the same part, is invariably associated with feeble manifestation of the same faculty, there being no hostile instances; then, and not till then, did he conclude that that particular part of the brain, and that particular power of the mind, held the relation of organ and faculty. Thus were all the discoveries in phrenology made; and thus, and thus only, can they be successfully confirmed or overturned.

method of Gall was strictly in accordance with the Baconian philosophy; and his conclusions strictly

warranted by those canons. Sir John Herschel, in his Discourse on the Study of Natural Philosophy, (sec. 145,) furnishes the tests by which we may know when two facts bear towards each other the relation of cause and effect. These are—

1. "Invariable connection."
2. "Invariable negation of the effect with absence of the cause."
3. "Increase or diminution of the effect with the increased or diminished intensity of the cause."

Tried by these tests, the doctrine of the functions of the brain, maintained by phrenologists, will be found fully established. Phrenologists have ever courted investigation, and demanded that the tests furnished by the inductive method of investigation, be rigidly applied. They ask that nature be questioned, and that her response be the award between them and their opponents.

Partly for the purpose of illustrating the method of the phrenologists, and of exhibiting the basis of facts on which their doctrines are founded, and partly for the purpose of arresting the attention of medical men to the importance of the phrenological doctrines to medical science, I have, in the third part of this work, grouped together some of the facts on which is founded the doctrine that the cerebellum is the organ of Amativeness. To those facts I refer, as the fitting supplement to these introductory remarks.

But, though a careful investigation of the observations and experiments on which a doctrine is founded affords the highest and only strictly scientific proof of its truth or error, yet men, in general, arrive at their conclusions by a far shorter method, and believe or disbelieve, on testimony, together with such slight personal inquiry as they can readily bestow. I object not to this. It is ordained that one should investigate for many, and that man should have faith in man. On leaving the primary light of nature, however, it behooves us to be careful that we obtain for our guidance a true reflection of that light. When we believe by faith, rather than by sight, we

should look well to the testimony on which our faith is to abide, and employ those tests of its admissibility and strength which reason dictates and experience has sanctioned. Let this be done, and we will gladly try conclusions with our adversaries on the nature and value of the testimony which they and we can respectively adduce.

I deem the true principles of guidance in relation to this secondary evidence to be those which govern in enlightened legal tribunals. The object of the scientific and judicial inquirer is the same, namely, the discovery of truth ; and when the scientific inquirer waives his supreme advantage of going to nature and obtaining a personal view, not only is their object identical, but their means of attaining that object. Let us, then, briefly notice those rules of evidence and tests of testimony which we shall have to refer to in this defence.

There are only three modes of ascertaining a fact :

1. By observation of the fact.
2. By information of the fact.
3. By knowledge or information of circumstances from which the fact may be inferred.

If a person of ordinary intelligence see a man stab another, and that other immediately die, he has the highest evidence of these facts of which they are susceptible—the evidence of perception. The testimony of a thousand other witnesses, of a thousand coincident circumstances, could add no force to his conviction ; neither could that conviction be strengthened by his being a man of high character and perfect veracity, nor weakened by his being a felon and perjurer.

In ordinary judicial investigations, however, the advantage of personal observation cannot be obtained. Should the slayer of the above victim, for example, be arraigned for murder, the jury, for their knowledge of the facts, would have to rely on information ; and if the above eye-witness testified to what he saw, the questions would arise, What dependence can be placed on his capacity as an observer ? what on his truth as a narrator ? Should he be proved to be an imbecile man, to be

a bad man and habitual liar, or to be an enemy of the accused, and of a revengeful disposition, his testimony, though true, would hardly be believed—the minds of the jurors would be clouded by doubts. But a murder may be committed, and no eye witness the fatal deed. Testimony to coincident circumstances is then the sole reliance of the jury. Suppose persons to testify that, immediately before the committal of the deed, they had seen the accused going with the victim towards, and afterwards hurrying alone from the fatal spot; that they had found blood on his clothes; in his possession, property of the deceased, and an instrument such as would be necessary to inflict the discovered wound; and near the victim a remnant of cloth, the exact compliment and counterpart of a rent garment in the possession of the accused. Every added circumstance, unexplained, would add force to the conviction of the prisoner's guilt. It will be observed, however, that testimony as to the existence of circumstances is open to all the objections which can be urged against direct testimony, with this additional one, that it does not even purport to establish the fact itself, but merely certain collateral facts from which the main fact has yet to be reached by inference.

It is clear, then, that though, separately or combined, direct testimony and testimony to circumstances may approximate more or less nearly to the satisfactory nature of evidence by perception, they can never equal it. Yet this secondary evidence necessarily forms the basis of the greater part of what men call their knowledge. By faith in it, we give credence to the records of history, believe in the existence of whatever persons, places, and things we have not visited or seen—in the “daily news,” nay, in the greater part of what occurs in one’s own business and family. In science, too, whatever a man believes, which he has not observed for himself, he believes on information or inference. And few there are who have demonstrated a tithe of the scientific facts which they confidently assert and teach.

The many sources of error to which testimony is exposed,

however, ought to put us continually on our guard, and induce us to subject it to adequate tests before admitting it as a proper ground of belief; and, if admitted, then to enable us to award to it its due degree of importance. These tests relate to the fact testified to, to the qualifications of witnesses, and to their number.

As to the fact testified to : The more clearly it accords with other facts, which are well established, the greater the probability of its truth.

As to the qualifications of witnesses, the desirable ones are —1, Undoubted intelligence and veracity ; 2, The absence of any strong motive to testify incorrectly. The essential ones are—1, The possession of adequate means of observation ; 2, The ample employment of those means ; 3, Correctness in narrating the observations made.

As to the number of witnesses, it is clear that the force of testimony is greatly increased by the agreement of a large number of such as are well qualified.

Testimony to the existence of probable facts, which is characterized by such qualities as the above, is far superior to that on which men base the greater part of all their conclusions, even when those conclusions constitute their guides in the most important acts of life.

In relation to a conclusion, let it be observed, here, that it involves at least two mental processes : 1. The ascertainment of facts. 2. Judgment on those facts. Thus the witness of the act of killing, before mentioned, saw the victim stabbed, and saw him immediately expire : these are the facts. The inference is obvious, but not less an inference on that account, that between the wound and the death there existed the relation of cause and effect. Beings that have not the faculty of Causality, might perceive between these facts the relation of succession, but not that of causation.

With these observations as starting points, I will proceed to state the issue in the cause of anti-phrenology against phrenology.

The charge brought against the phrenologists, is that of

falsely pretending that phrenology is true. This charge is made in brave words, and accompanied by epithets of denunciation and derision. It is with the charge, however, that we are concerned; if that be proved false, the accompaniments will be shown to be mere noise—powder without ball.

The phrenologists start with their antagonists from the common ground, that the brain is the organ of the mind, and they maintain that it does not act in mass, but that distinct portions of the brain are the organs of distinct mental faculties. This they prove in several ways, but principally by showing of each respective portion of the brain which they designate an organ—

1. That by most careful investigation they have ascertained that, other things being equal, there exists between its development and that mental faculty of which they designate it the organ, an exact relation of size and power, and that this relation does not exist between any other portion of the brain and this faculty.

2. That from this correspondence of size and power, it is correct to infer that between each of these parts and its corresponding mental quality, the relation of organ and faculty exists.

Now, against these positions of the phrenologists, on which the doctrine of the plurality of cerebral organs may be exclusively founded, the admissible pleas of our adversaries can be two only—

1. A denial of the asserted *fact*, that there exists between certain parts of the brain and certain mental faculties, the relation of size and power; and,

2. A denial of the *inference* that such relation proves these respective portions of the brain to be the organs of these respective faculties.

If any man joins issue on the second point, with him I can have no controversy. He is beyond the reach of anything which it is possible for me to urge. To the defence of the

first proposition of the phrenologists, I shall, therefore, exclusively attend.

To maintain their charge against phrenology, various opponents pursue various methods.

Some ridicule the science; but ridicule is not evidence. He who, being called to testify, should proceed to make sport of the accused, would be dismissed as idiotic or insane.

Some denounce it; but denunciation is not evidence. He who, being called to testify, should proceed to pour forth abuse and invective against the accused, would be punished for insolence and impertinence.

Some attempt to overthrow phrenology by maintaining that its doctrines are incompatible with certain other doctrines which they assume to be true. This is not evidence. There cannot, indeed, be two incompatible truths; but such a course raises a variety of foreign issues: as, for example, whether the doctrine assumed to be true, is true; and whether the asserted incompatibility is real, or merely a misunderstanding of the objector—a failure on his part to perceive the true relations of the doctrines to each other. The only correct method of procedure is to try phrenology on its own merits. If it is true, it cannot jar with any other truth; if it be proved false, there is the end of the controversy.

Another mode of attacking phrenology is to adduce irrelevant facts, and assert them to be hostile. But a fallacy is not more inappropriate in argument than an irrelevant fact in evidence.

Instances of all these methods of attack will be adduced and reviewed in the progress of the work. Here I shall consider the question, What testimony has been produced against phrenology? And I answer: None which deserves the name—none which would be considered admissible as proof in a court of justice, or of sufficient weight to make out even a *prima facie* case against phrenology. Its opponents can, indeed, show that men of high reputation have ridiculed it, or denounced it, or asserted it to be false or dangerous, but they

cannot show that any one has fully and fairly examined the facts on which it is based, and arrived at the conclusion that it is not true. Whoever thoroughly investigates, believes. The history of phrenology proves this.

If I am correct in this assertion, it follows that no such testimony as is required to sustain the charge of our opponents, can be produced. And it is matter of fact that no such testimony has ever been produced. Dr. Sewall, in his "*Errors of Phrenology Exposed*," has, indeed, published testimonials against phrenology, which I concede to be those of gentlemen of unquestionable talent and high attainments; but, unhappily for the professor's object, of men not gifted with powers which no man ever possessed, namely, the power of testifying correctly to facts with which they are unacquainted, and that of giving sound judgment in relation to the doctrines resulting therefrom. It would be tedious and profitless to notice the whole of those certificates. They are similar in their essential characteristics, and a few of them will show what those characteristics are.

The Honorable John Quincy Adams says to Dr. Sewall, in his testimonial: "I have read with great satisfaction your two lectures upon the science of phrenology, which *I have never been able to prevail upon myself to think of as a serious speculation*. I have classed it with alchymy, with judicial astrology, and with augury." Mr. Adams thanks Professor Sewall for furnishing him "with arguments to meet the doctors who pack up the *five senses* in the *thirty-five parcels* of the brain."

What does Mr. Adams testify to in the above sentences? Simply to his own ignorance of the matter, and to conclusions based on that ignorance; and if Mr. Adams had not frankly avowed his want of acquaintance with phrenology, the last observation quoted would have rendered that fact sufficiently obvious.

The Honorable Daniel Webster is brought forward to testify against our science, and says to Dr. Sewall: "Of the accuracy of the physical and anatomical facts which you state,

I am no competent judge; but if your premises are well founded, the argument is conclusive."

What is the substance of Mr. Webster's testimony? Simply this. He testifies to his own ignorance of the facts of the case, and to the correctness of Professor Sewall's *inference*. Now it so happens, that on the principal point of the professor's attack, just the reverse of this is true. His facts are correct; his conclusion clearly unsound. He gives correct descriptions of several abnormal skulls which differ greatly in thickness; and from the impracticability of inferring the size and form of the brain, from the size and form of such skulls, he deduces the impossibility of inferring its size and form from the size and form of skulls in their *usual* and *healthy* condition—a conclusion as absurd as would be the inference that the size of the brain cannot be correctly inferred from the size of its cranial cavity, because, in cases of hydrocephalus, that cavity contains unascertainable proportions of brain and water. Mr. Webster's testimony as to the correctness of the professor's inference, is, therefore, clearly erroneous. So dangerous is it for even one of profound intellect to give judgment without knowledge.

The Honorable John Maclean, one of the judges of the Supreme Court of the United States, is brought forward to testify against phrenology, and says: "I do not profess fully to understand the science of phrenology, if it may be called a science. You have taken the most effectual method to expose the absurdity of the system, and so completely have you succeeded, that I do not think the disciples of Gall and Spurzheim will attempt seriously to answer you."

Here we have a confession from the witness that he does not fully understand what he is talking about, and succeeding this, a decision that phrenology is an absurdity. His last sentence shows him to be as ignorant of phrenologists as of phrenology.

On reading the above testimony of these three eminent law.  
It surprise and regret that they should have so far

forgotten what is due to the cause of correct investigation—what is due to their profession and to their own reputation—as to allow themselves to be placed before the world in the light of men deciding questions of fact and inference, in ignorance of the matters on which they decide. Suppose a charge of false pretences to be brought against an individual, and the trial to take place before Judge Maclean, with Mr. Webster and Mr. Adams as counsel for the defendant. Then suppose the accusing party to bring forward witnesses to prove their charge, who, being duly sworn, say upon their oaths that they are unacquainted with the facts of the case, but that they verily believe the accused to be guilty of the charge; or that they are ignorant of the facts, but that, if the facts stated by the accusers be true, then is the accused guilty. What a mockery would this be of the plainest rules of evidence! With what indignation would Mr. Adams and Mr. Webster denounce such an attempt to destroy the character of their client, and with what promptness would the judge rebuke it! The inadmissibility of such testimony would be too evident for argument; or the counsel or judge might remind the accusing party of what Mr. Starkie, in his work on Evidence, (vol. i., p. 11,) calls one of the “absurd, monstrous, and impious practices resorted to by our ancestors” in their judicial investigations, namely, that of compurgation—by which it was “vainly hoped that the rank and number of compurgators who swore, *not to any fact, but to mere belief,* would compensate for their want of knowledge.” Yet this practice of compurgation, though more impious, being given under the sanction of an oath, was not a whit more monstrous and absurd than is any attempt whatever to convict an individual of falsehood, or a doctrine of error, in ignorance of the merits of the case, and by testimony as to mere opinion or belief.

Let us turn from such evidence to that of the phrenologists, first dwelling briefly on the nature of the views which they maintain, and of the facts which they attempt to prove; for, as I have before said, the more clearly an asserted fact harmo-

nizes with other facts, which are well established, the greater is the probability of its truth.

It is universally acknowledged that the faculties of the mind are many. The plurality of the cerebral organs is in manifest accordance with this fact.

It is well established that the various mental faculties differ greatly in power in different persons. The plurality of the cerebral organs, and their differences of development, is in strict accordance with this fact.

It is well known that the various mental faculties often differ greatly in relative power in the same individual. The plurality of the cerebral organs, and the difference of their relative development in the same brain, strictly harmonizes with this fact.

It is notorious that one or more of the mental faculties may be deranged, while the rest remain sound. The plurality of the cerebral organs, and their liability to be separately and independently diseased, is in evident harmony with this fact.

It is highly characteristic of the truth of a doctrine, that it harmonizes with and explains many diverse classes of phenomena; and this characteristic the doctrines of phrenology possess to such an extent that, independently of their foundation on the organization of the brain, they deserve the assiduous attention of the learned, furnishing as they do a theory which affords the most clear and beautiful solution of the operations of the mental faculties, of the diversities of talents and dispositions, of the differences in the mental characteristics of the sexes, of the phenomena of partial idiocy, dreaming, and somnambulism, and of partial insanity—a theory which links these phenomena into one harmonious whole.

This superiority of phrenology is conceded by men of high reputation for sound learning and judgment. Dr. Whately, Archbishop of Dublin, so celebrated for his works on logic and rhetoric, says that, even if all connection between the brain and mind were a perfect chimera, the treatises of phrenologists of great value, "from their employing a metaphysical

nomenclature far more logical, accurate, and convenient than Locke, Stewart, and other writers of their schools;"—*Combe's Testimonials*, p. 5.

"Even though," says Maclaren, "I had no faith in organology, I should still hold that phrenology possesses the following advantages: 1st. That it exhibits a more scientific and consistent classification of the human faculties than any other system of philosophy. 2d. That it gives a more lucid and satisfactory explanation of those varieties of national and individual character which we find in the world. 3d. That it has a more immediate and practical bearing on human conduct and the business of life—on morals, education, and legislation. We have the testimony of both the learned and the unlearned to its merits in this respect."—*Ibid.*, p. 57.

"The phrenological system," says Dr. Macnish, in his work on the Philosophy of Sleep, "appears to me the only one capable of affording a rational and easy explanation of all the phenomena of mind. It is impossible to account for dreaming, idiocy, spectral illusions, monomania, and partial idiocy, in any other way."

"To me," says Mr. Robt. Chambers, one of the editors of the Edinburgh Journal, "phrenology appears to bear the same relation to the doctrines of even the most recent metaphysicians, which the Copernican Astronomy bears to the system of Ptolemy. By this science the faculties of the mind have been, for the first time, traced to their elementary forms."—*Combe's Test.*, p. 55.

"I am convinced," says Professor Hunter, "that phrenology is the true science of the mind. Every other system is defective in enumerating, classifying, and tracing the relations of the faculties."

"I candidly own," says Sir William Ellis, M. D., late physician to the great lunatic asylum for Middlesex, "that, until I became acquainted with phrenology, I had no solid basis upon which I could base any treatment for the cure of the disease of insanity."—*Ibid.*, p. 12.

Possessing these strong characteristics of truth, it is clear, to my mind, that phrenology belongs to that class of doctrines which are, *a priori*, highly probable, and which do not need for their establishment any extraordinary kind and amount of proof. Of this, however, I shall take no advantage, but proceed as though I had to contend against the most inveterate improbabilities. Bearing in mind, then, the desirable and essential qualifications of witnesses, before stated, I will proceed with the testimony of the phrenologists.

*Testimony of FRANCIS JOSEPH GALL, M. D., author of "The Anatomy and Physiology of the Nervous System in General, and of the Brain in Particular : 4 vols., fol., with an Atlas of one thousand plates," and "On the Functions of the Brain, and of each of its Parts :" 6 vols., &c. &c.*

It is proper, on this occasion, that we should hear the discoverer of the phrenological doctrines on the method he pursued in arriving at his conclusions. After narrating the observations by which he was led to investigate the functions of the brain, he says: "For a long period I continued my researches as I had begun them—urged on solely by my fondness for observation and reflection. Abandoning myself to chance, I gathered for several years all that it offered me. It was not till after having accumulated a considerable mass of analogous facts, that I felt myself in a state to range them in order. I perceived successively the results, and at length had it in my power to go to meet observations and multiply them at pleasure."—*On the Functions of the Brain*, vol. i., p. 62. Boston : 1835.

"I gathered," says Gall, "innumerable facts in schools, and in the great establishments of education; in the asylums for orphans and foundlings; in the insane hospitals; in houses of correction and prisons; in judicial interrogatories; and even in places of execution: the multiplied researches on suicides, idiots and madmen, have contributed greatly to correct and confirm my opinions. I have laid under contribution several

anatomical and physiological cabinets ; I have submitted antique statues and busts to examination, and have compared with them the records of history.

"After having used, for more than thirty years, such diversified means, I no longer feared the danger or the reproach of having precipitated the publication of my great work. I had more reason to apprehend, that the great number of proofs I had furnished in support of each of my propositions, instead of being satisfactory, would prove to the great body of my readers actually alarming."—*Ibid.*, 67.

To show with more particularity the assiduity and carefulness with which Gall pursued his observations, I will give an extract, showing the history of the discovery of the organ of Combativeness. "I collected in my house," says Gall, "quite a number of individuals of the lower classes of society, following different occupations ; such as coachmen, servants, &c. I obtained their confidence and disposed them to sincerity by giving them beer, wine, and money ; and when favorably inclined, I got them to tell me of each other's good and bad qualities, and most striking characteristics. In their different communications, they seemed to notice particularly those who were always provoking disputes and quarrels. Individuals of peaceable habits they knew very well, speaking of them with contempt, and calling them poltroons. As the most quarrelsome found great pleasure in giving me circumstantial narratives of their exploits, I was anxious to see whether anything was to be found in the heads of these *bravos*, which distinguished them from those of the poltroons. I ranged the quarrelsome on one side, and the peaceable on the other, and examined carefully the heads of both. I found that in all the former, the head, immediately behind and on a level with the top of the ears, was much broader than in the latter. On another occasion, I assembled separately those who were most distinguished for their bravery, and those most distinguished for their cowardice. I repeated my researches, and found my first observations confirmed. It was impossible for me to be

deceived by the false ideas of philosophers, on the origin of our qualities and faculties. In the individuals I had to deal with, education was entirely out of the question, and the manner in which their character was manifested, could not be attributed to the influence of external circumstances. Such men are the children of nature, yielding themselves unreservedly to their dispositions, and all their actions bearing the imprint of their organization.

"I therefore began to conjecture that the disposition to quarrel might really be the result of a particular organ. I endeavored to find out, on the one hand, men of acknowledged superior bravery, and, on the other, men known to be great cowards. At the combats of wild beasts, at that time still exhibited in Vienna, there often appeared a first-rate fighter of extreme intrepidity, who presented himself in the arena, to sustain alone a fight with a wild boar, or a bull, or any ferocious animal whatever. I found in him the region of the head just pointed out, very broad and rounded. I took a cast of this head, and likewise those of some other *bravos*, that I might run no risk of forgetting their particular conformations. I examined also the heads of some of my comrades, who had been expelled from several universities, for duel-fighting. One of them knew no greater pleasure than that of sitting down in an ale-house, and mocking the workmen who came thither to drink; and when he saw them disposed to come to blows, putting out the lights, and giving them battle in the dark, chair in hand. He was, in appearance, a small and feeble man. He reminded me of another of my comrades, a Swiss, who used to amuse himself at Strasburg, by provoking quarrels with men much larger and stronger than himself. I visited several schools, and had pointed out to me the scholars who were the most quarrelsome, and those who were the most cowardly; and I prosecuted the same observations in the families of my acquaintance. In the course of my researches, my attention was attracted by a very handsome young woman, who, from her fondness, had been fond of dressing herself in male attire,

and going secretly out of doors to fight with the blackguards in the streets. After her marriage, she constantly sought occasion to fight with men. When she had guests at dinner, she challenged the strongest of them, after the repast, to wrestle. I likewise knew a lady, who, although of small stature and delicate constitution, was often summoned before a justice, because of her custom of striking her domestics of both sexes. When she was on a journey, two drunken wagoners, having lost their way in the inn during the night, entered the chamber where she was sleeping alone ; she received them so vigorously with the candlestick, which she hurled at their heads, and the chairs with which she struck, that they were forced to betake themselves to flight. In all these persons, I found the region in question formed in the manner above described, although the heads in other respects were formed quite differently. These observations emboldened me, and I began thenceforward to speak in my lectures of an organ of courage, as I then called it.

"There soon after died a general, whose whole reputation was founded on his courage and love of fighting. I found his head shaped as it is in the first-rate fighter at Vienna, spoken of above. My entire conviction was finally achieved by the cranium of the poet Alxinger, who was so destitute of courage, that his cowardice exposed him to considerable raillery. Comparing his cranium with the preceding, what a difference in the development of this region ! The general's cranium, besides being very broad immediately behind the ears, also presents a round protuberance an inch in breadth. Alxinger's cranium, on the contrary, is not only very narrow in this place, but entirely flattened."—*Ibid*, vol. iv., page 14.

Such is the testimony of this extraordinary man in relation to the investigations which formed the foundation of his discoveries.

This appears to be the appropriate place for introducing a few observations on the founder of phrenology as a corrective of those erroneous notions of his character, which have gone

abroad concerning him on the authority of ignorant or prejudiced opponents. To show the disinterestedness of his objects, it may be remarked that Dr. Gall, though possessing a very high and profitable practice, kept himself poor by spending on his phrenological inquiries all he gained, after defraying necessary expenses. (*Elliott's Blumenbach*, 5th ed., p. 504.) As early as 1802, in his petition and remonstrance to the Imperial Government of Lower Austria, against an order issued by the command of the Emperor of Germany, prohibiting him from lecturing on the functions of the brain, Gall says, in setting forth the consequences of this prohibition : "To this perilous injury to my reputation, involving the loss of all the advantages arising from the hard-earned confidence of the public, must be added a consequence deeply affecting my interest. My collection of plaster casts, of the skulls of men and animals, and of the brains of men and animals in wax, has cost me above *seven thousand gulden*; and I have already made very expensive preparations, exceeding in amount *fifteen thousand gulden*, for a splendid work on the functions of the brain, which has been universally demanded of me: this property will be rendered useless by destroying my reputation." This petition and remonstrance had no effect on the government of Austria, and Gall had to choose between the relinquishment of a very profitable medical practice and the ties of country, on the one hand, and the curtailment of his exertions to promote a knowledge of the physiology of the brain on the other. He chose the former, and left Vienna for ever.

In the *Physiologie Intellectuelle* of Dr. Demangeon, is contained the testimony of men of high celebrity, who speak from personal knowledge, both as to the character and doctrines of Gall.

"The worthy Reil," says Professor Bischoff, "who, as a profound anatomist and judicious physiologist, has no need of my praise, rising above all narrow and selfish prejudices, has declared 'that he has found more in Gall's dissections of the

brain than he could have believed it possible for any one man to discover in his whole life.'"

"Loder," continues Professor Bischoff, "who certainly yields to no living anatomist, thus estimates the discoveries of Gall, in a friendly letter to my respected friend, Professor Hufeland: 'Now that Gall has been at Halle, and I have had an opportunity, not only of listening to his lectures, but also of dissecting with him, either alone or in the company of Reil and several of my acquaintances, nine human brains, and fourteen brains of animals, I think I am able, and have a right to give an opinion as to his doctrines.

"I say, then, that I agree with you concerning organology, without, however, believing it to be at all contradictory to anatomy, being convinced that in respect to its grounds and principles, it is true. \* \* \* The skulls of Schinderhannes, and six of his accomplices, were lent to me by Ackermann, of Heidelberg. They presented a striking harmony with the craniological indications of Gall. In the presence of S., with whom the little H., of Jena, lived, who, after stealing several times, drowned herself in the Saale, Gall gave such an exact description of her character from a mere inspection of her skull, (which I had secretly procured, and which no one knew I had,) that S. was really amazed when I revealed the secret. There was no chance about this, and I may say the same of several other cases.

"The discoveries in the brain, made by Gall, are of the highest importance, and several of them possess such a degree of evidence that I cannot conceive how any one, with good eyes, can overlook them. I speak particularly of ——. (Here follows a list of some of Gall's anatomical discoveries.) These discoveries alone would be sufficient to render Gall's name immortal; they are the most important that have been made in anatomy since the discovery of the absorbent system. The unfolding of the convolutions is a capital thing. What progress have we not a right to expect from a route thus opened! I am dissatisfied and ashamed of myself for having, like

others, for thirty years, cut up some hundreds of brains as we slice cheese, and for having failed to perceive the forest by reason of the great number of trees. But there is no unblushing and fretting. The best thing we can do is, to listen to the truth, and learn what we are ignorant of. I acknowledge with Reil, that I have found more than I deemed it possible for a man to discover in a lifetime.'"

"Professor Hufeland says: 'It is with great pleasure and much interest that I have heard this estimable man, (Gall) expound his new doctrine. I am fully convinced that it ought to be considered one of the most remarkable phenomena of the eighteenth century, and one of the boldest and most important advances that have been made in the study of nature.'

"One must see and hear, in order to learn that the man is entirely exempt from prejudice, charlatanism, deceit, and metaphysical reveries. Endowed with a rare spirit of observation, with great penetration and sound judgment—identified, so to speak, with nature, and deriving confidence from his constant intercourse with her, he has collected, in the class of organized beings, a multitude of indications and phenomena never before observed, or which had been observed superficially, only. He has compared them ingeniously, discovered the relations which establish an analogy between them—has learned their significations, deduced consequences, and established truths, which are the more precious for being invariably founded on experience, and flowing from nature herself. To this labor he is indebted for his views of the nature, relations, and functions of the nervous system.'"

#### Testimony of Dr. SPURZHEIM.

The testimony of Dr. Spurzheim agrees essentially with that of Dr. Gall, whose collaborator he was for many years. His numerous works bear testimony to his high capacity, great labor, untiring industry, and that he acted with a deep sense of the truth of one of his oft-repeated maxims, "One fact, well observed, is more decisive to us

than a thousand opinions, and all the metaphysical reasonings of the schools."

*Testimony of GEORGE COMBE, Esq., author of "A System of Phrenology;" "The Constitution of Man Considered in Relation to External Objects;" "Moral Philosophy: or, The Duty of Man Considered in his Individual, Social, and Domestic Capacities;" "Notes on the United States of North America," etc., etc.*

"When a young man, I paid much attention to the prevailing theories of mental philosophy, frequently meeting a number of friends for the purpose of discussing the opinions of various metaphysical authors, hoping to obtain some practical views of human nature which would be serviceable in my intercourse with society, and in the pursuit of my professional avocations. But all my labors proved fruitless of beneficial results, and I ceased to study the works of the metaphysicians. Hoping to obtain some more satisfactory notions of the mental functions from the physiologists, I attended the lectures of Dr. Barclay. All parts of the body were beautifully described, and their uses clearly explained, till he came to the brain; then was all dark and confused. He took great pains in dissecting that most important organ, but by a wrong method: he cut it up into slices like a ham, confessing his ignorance of its functions and intimate structure. The physiologists satisfied me no better than the metaphysicians.

"From the forty-ninth number of the Edinburgh Review, I received my first information concerning the doctrines of phrenology. Led away by the boldness of that piece of criticism, I regarded its doctrines as absurd, and its founders as charlatans. For twelve months ensuing, I paid no attention to the subject; indeed, such was the unfavorable impression made on my mind by the review, that, when Dr. Spurzheim came to Edinburgh, I neglected to attend his first course of lectures, and should probably not have attended them at all, but for a fortunate circumstance. Coming out of the Supreme Court one day, my friend Mr. Brownlee invited me to attend a dissection

of the brain, to be performed in his house, by Dr. Spurzheim. I availed myself of this opportunity of comparing the method of Gall and Spurzheim with that which I had seen practised by Dr. Barclay. Dr. Spurzheim did not slice, but began at the *medulla oblongata*, and gradually *unfolded* the brain by following its structure. In ten minutes he completely refuted the reviewer's assertions, and finally demonstrated his own anatomical views.

"I immediately commenced to attend the second course of lectures of Dr. Spurzheim; and, independently of his physiological views, I found the explanation he gave of mental manifestations to be greatly superior to any with which I was acquainted. This was a great point gained; and I determined to pursue the study by an appeal to nature. Accordingly I purchased books, and sent to London for a large quantity of casts. They arrived in three huge puncheons, and, when taken out, they nearly covered the floor of my drawing-room. But when I saw them there, seemingly all alike, my heart sank within me, and I would gladly have buried them in the ground to get rid of them. However, my friends heard of my collection, and I soon had a great many to visit me—some to examine, and some to make sport. When I began seriously to examine them, I soon found that heads apparently alike, were, in reality, very dissimilar. This encouraged me. I pursued my examinations, both of casts and of the heads of living persons, and gradually became convinced of the truth of the new science."—*Lectures on Phrenology, by George Combe, Esq.*

*Testimony of JOSEPH VIMONT, M. D., of the faculty of Paris, author of "A Treatise on Human and Comparative Phrenology, accompanied by a Grand Atlas, in folio, containing 120 plates."*

In 1818, the Royal Institute of France offered a prize to the author of the best memoir on the anatomy of the brain, in the four classes of vertebral animals. Attracted by this, Dr. Vimont, of Caen, commenced his researches, as he informs

us, without the slightest reference to phrenology. As he proceeded with his labors, he became very desirous of ascertaining the functions of the nervous system. But for a long time, he arrived at no satisfactory result. After studying closely, in relation to this subject, the works of Pliny, Buffon, Linnæus, Leroy, Dupont de Nemours, and others, he procured the works of Gall, of whom he had heard little that was not condemnatory; still he concluded to give his writings a perusal. Little did he anticipate that they were to be a light to his path. "But," says he, "no sooner had I read Gall's works, than I found that I had made the acquaintance of one of those extraordinary men whom dark envy is always eager to exclude from the rank to which their genius calls, and against whom it employs the arms of cowardice and hypocrisy. High cerebral capacity, profound penetration, good sense, varied information, were the qualities which struck me as distinguishing Gall. The indifference which I first entertained for his writings gave place to the most profound veneration."—*Introduction*, p. 14.

This veneration, however, was not blind, but rational. Vimont took nothing on trust, but continued his investigations, with renewed vigor, for upwards of six years, during which time he spent more than twelve thousand francs in procuring specimens. In 1827, nine years from the commencement of his observations on the nervous system of animals, and their habits and aptitudes, and two years after commencing to pay particular attention to the cerebral organization and mental manifestations of man, Dr. Vimont presented to the Royal Institute a memoir containing a fragment of his researches, together with two thousand five hundred heads of brutes, of various classes, orders, genera, and species. Of these, fifteen hundred had belonged to brutes, with whose habits he had been, individually, well acquainted before they died or were killed. He presented four hundred wax representations of the brain, modelled after nature, and an atlas of more than three hundred figures of the brain and cranium. The work by

which he now illustrates his observations, contains more than six hundred figures.

And what was the result of all his labors—his years of ardent, faithful, expensive inquiry? The full belief in the doctrines of phrenology, and a vast accumulation of facts, all in harmony with the great principles discovered by Gall. And what was his reward? The sincere respect and admiration of a few—the opprobrium of the many. Men who had attended to the matter while reclining, be-gowned and be-slipped, in their easy-chairs, suddenly discovered, in this announcement of the conclusions arrived at by Vimont, proof conclusive that he, too, was a dangerous speculator on human credulity; and, forsooth, these very respectable and comfortable gentlemen, out of the superabundance of their knowledge and wisdom, undertook to put the public on their guard against his charlatany, in the various periodicals, through which they deigned to enlighten the world. But shall we believe the tirades of such men in preference to the slowly-matured, fact-supported, interest-opposing evidence of Vimont? who, as the result of all his labors, declares that “phrenology is true; that incontrovertible facts abound, proving that the mental faculties of men may be appreciated, in their healthy state, by an examination of their heads;” and that, “to deny the truth of those facts, is to put in doubt the existence of the best established phenomena.”

*Testimony of CHARLES CALDWELL, M. D., Professor of the Institutes of Medicine, etc., in the Louisville Medical College, and author of many medical and philosophical works.*

This veteran and distinguished professor and author, whose name is familiar to the cultivators of medical science, confesses that he once held phrenology in contempt; and that he allowed himself to be persuaded to attend some of Dr. Spurzheim’s lectures in Paris, solely in the expectation of gathering materials for ridicule; but, instead, he found materials for earnest thought. From that time, he ceased to jeer, and com-

menced to investigate. The result of his investigations appears in the following letter :—

NEW-YORK, September 18th, 1841.

To ANDREW BOARDMAN, Esq., M. D.

DEAR SIR :—In reply to your note, permit me to say that I have been an industrious, not to say an ardent, student of phrenology for more than *twenty years*; and that I have pursued the study of it in all the several ways which have appeared to myself, and which are considered by others, best calculated for the disclosure of truth.

I have studied the science by attentively reading and deliberately examining the writings of men of high standing, who have made it for years a subject of close observation and judicious experiment. *I have made it a subject of observation and experiment myself*, and, from well-established facts, thus collected, I have deduced what I regard as correct conclusions.

Of this severe and long-continued scrutiny, the result is, that I believe in the principles of phrenology as firmly and conscientiously as I do in those of any other branch of science with which I am acquainted, mathematics not excepted. And I further believe that the discoveries of Dr. Gall and his followers, when fully carried out and skilfully applied, in all their details and fitnesses, are destined to bestow on the human family a much higher amount of benefits and blessings than have been conferred by the discoveries and labors of any other man and his followers whom the world has produced.

With sentiments of high regard,

I am, dear sir, very sincerely, yours,

CH. CALDWELL.

*Testimony of Dr. F. J. V. BROUSSAIS, Professor to the Faculty of Medicine at Paris, Member of the Institute of France, a Commander of the Legion of Honor, author of many physiological and pathological works and treatises.*

The celebrated physician-in-chief to the *Val-de-Grâce* became an early advocate of phrenology, and, in 1836, he delivered a course of lectures on the subject, before the Faculty of Medicine at Paris, which were attended by overwhelming throngs. These lectures were reported in the *London Lancet*, and were also published in French by the Professor himself.

They abound in facts, which he himself had observed. In the sixth lecture, he says : " I assure you that it is not needlessly, without reflection, and numerous observations, that I have ventured to stand forth in favor of phrenology ; I have multiplied observations as far as possible, before taking this step." And in the same year, during a discussion at the Royal Academy of Medicine, he observed : " Many of the details of authors on this, and, indeed, on every branch of science, are necessarily imperfect and inaccurate ; but such an objection cannot invalidate its leading principles and conclusions. These have been deduced from a patient examination of facts, which no reasoning can gainsay, and which most satisfactorily establish this important truth, that certain mental manifestations are always associated with certain cerebral formations. This empiric fact is the foundation of all phrenological reasoning ; and notwithstanding the indiscreet and ignorant haste of many disciples of the science, its essential doctrines are based upon incontestible observations."

*Testimony of Dr. ROBERT MACNISH, Member of the Faculty of Physicians and Surgeons of Glasgow, author of "The Philosophy of Sleep," "The Anatomy of Drunkenness," "An Introduction to Phrenology," &c.*

" My first ideas of phrenology were obtained from Dr. Gall himself, whose lectures I attended in Paris, during the year 1825. Before that time, I, in common with almost all who are ignorant of the subject, spoke of it with great contempt, and took every opportunity of turning it into ridicule. The discourses of this great man, and various private conversations which I had the honor of holding with him, produced a total change in my ideas, and convinced me that the doctrines he taught, so far from deserving the absurd treatment which they then generally met with, were, in themselves, highly beautiful, as expositions of the human mind in its various phases, and every way worthy of attention. Much reflection, and many appeals to nature, since that period, have satisfied

me of their perfect truth."—*Preface to Introduction to Phrenology.*

"Since commencing the study of phrenology, a new light has dawned upon me, and various phenomena, which were before perfectly inexplicable upon any known theory, are now of easy solution. \* \* \* The relations subsisting between the brain and other organs have been unfolded by phrenology with uncommon clearness, and with a precision and accuracy hitherto undreamt of by physiologists."—*Combe's Testimonials*, p. 15.

*Testimony of SAMUEL GEORGE MORTON, M. D., Professor of Anatomy in the Medical Department of Pennsylvania College, author of the "Crania Americana, or a Comparative View of the Skulls of Various Aboriginal Nations of North and South America; to which is prefixed an Essay on the Varieties of the Human Species, illustrated by seventy-eight plates," &c., &c.*

Professor Morton, in an inscription to John Phillips, Esq., prefixed to his great work, the Crania Americana, thus speaks of the results of his observations as they affect the truth of the phrenological doctrines:—

"You and I have long admitted the fundamental principles of phrenology, viz: that the brain is the organ of mind, and that its different parts perform different functions; but we have been slow to acknowledge the details of craniometry, as taught by Dr. Gall, and supported and extended by subsequent observers. We have not, however, neglected this branch of inquiry, but have endeavored to examine it in connection with numerous facts, which can only be fully appreciated when they come to be compared with similar measurements derived from the other races of men. Yet I am free to acknowledge that there is a singular harmony between the mental character of the Indian and his cranial developments, as explained by phrenology."

When, in the year 1836, there was a contest for the Chair of Logic in the University of Edinburgh, Mr. Combe offered himself as a candidate, basing his claims chiefly on the superior advantages which his knowledge of "the only true science of mind" would give to him as a teacher of logic. As is customary, Mr. Combe presented in his support a large number of certificates from men of eminence in science and philosophy. All of these, about eighty in number, treat, to a greater or less extent, of the superior claims of the new philosophy. They were afterwards published,\* and I here present extracts from a few of them, expressive of the belief of the respective writers in phrenology, and the grounds of that belief.

*Testimony of G. S. MACKENZIE, Bart., F. R. S. L., formerly President of the Physical Class of the Royal Society of Edinburgh, author of "Travels in Iceland," of "An Essay on Taste," &c. &c.*

"While I was unacquainted with the facts on which it is founded, I scoffed, with many others, at the pretensions of the new philosophy of mind, as promulgated by Dr. Gall, and now known by the term phrenology. On hearing and conversing with his most eminent disciple, the lamented Spurzheim, the light broke in upon my mind; and many years after I had neglected the study of mind, in consequence of having been disgusted with the utter uselessness and emptiness of what I had listened to in the University of Edinburgh, I became a zealous student of what I now perceive to be truth. During the last twenty years, I have lent my humble aid in resisting a torrent of ridicule and abuse, and have lived to see the true philosophy of man establishing itself wherever talent is found capable of estimating its immense value."—*Combe's Testimonials*, p. 7.

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\* Testimonials on behalf of GEORGE COMBE, as a Candidate for the Chair of Logic, in the University of Edinburgh. Edinburgh: 1836.

*Testimony of ANDREW COMBE, M. D., Fellow of the Royal College of Physicians of Edinburgh, and Physician in Ordinary to their Majesties the King and Queen of the Belgians, author of "The Principles of Physiology Applied to the Preservation of Health," "The Physiology of Digestion," "A Treatise on the Physiological and Moral Management of Infancy," "A Treatise on Mental Derangement," &c.*

"Before expressing any opinion on the subject of phrenology as the science of mind, I think it proper to confess that, for nearly two years after I first heard of Dr. Gall's discovery of the physiology of the brain, I not only disbelieved its reality, but treated it with ridicule and contempt. Circumstances, however, then occurred, which induced me to examine the doctrines more seriously, and to *verify the facts on which they were said to be based*. In following this more rational course, the first result at which I arrived was the mortifying conviction of my having been previously entirely ignorant of their real nature and evidences, and employed in ridiculing fancies of my own, which I believed to be phrenology, but which had scarcely any resemblance to it. In proportion as my knowledge advanced, and my observations were extended, the impression became the stronger that the leading principles and facts of phrenology were not only demonstrably true, but, like all other great truths, fraught with the most important consequences to human improvement, and to the prevention and alleviation of human sufferings; because they were directly applicable to the sciences of medicine, education, and morals—including, in the latter, civil and criminal legislation, the regulation of the practical duties of life, the extension of true religion, and everything, in short, in which human nature is concerned, either as the agent or as the object acted upon."

"Sixteen years (1836) have now elapsed since the above conviction became deeply rooted in my mind; and it is worthy of remark, that it arose against the influence of prejudice, and against what I then believed to be my worldly interest.

"My whole subsequent experience has confirmed the opinion

I then formed of the truth of the new philosophy, and greatly increased my sense of its importance to mankind, as constituting, in fact, that science of mind which has been so long, so ardently, and, till now, so unsuccessfully sought after by the ablest men of every succeeding age."—*Ibid.*, p. 25.

From RICHARD TOLSON EVANS, Esq., M. D., M. R. I. A., Professor of the Practice of Physic in the Royal College of Surgeons, Ireland.

"I have long been acquainted with the science of phrenology, and feel no hesitation in declaring my conviction of its truth.

"In phrenology we find united the best exposition of the moral sentiments, and the most approved metaphysical doctrines heretofore taught, while it surpasses all former systems in practical utility and accordance with facts; being that alone which is adequate to explain the phenomena of mind.

"This opinion I am emboldened to pronounce, not merely as my own conviction, but as that which I have heard expressed by some of the most scientific men and best logicians of the day."—*Ibid.*, p. 20.

From DR. WILLIAM GREGORY, F. R. S. E., Fellow of the Royal College of Physicians of Edinburgh; Member and formerly President of the Royal Medical Society.

"I am conscious of having used my best endeavors to satisfy myself that phrenology is founded in nature.

"These endeavors have led to a firm conviction of the truth of this science, and of its vast importance."—*Ibid.*, p. 21.

From DR. WILLIAM WEIR, Lecturer on the Practice of Medicine at the Portland Street Medical School, Glasgow, formerly Surgeon to the Royal Infirmary, and one of the Editors of the Glasgow Medical Journal.

"Being myself firmly convinced, after many years study of the subject, and numerous observations, that phrenology is the

true philosophy of the mind, I have taught it, in my lectures to medical students, as the correct physiology of the brain; and I consider it impossible to give a proper view of the functions of the brain on any other but phrenological principles. I have, during the last five years, applied the principles of this science towards elucidating the nature and treatment of insanity."—*Ibid.*, p. 37.

*From Dr. JOHN ELLIOTSON, F. R. S., President of the Royal Medical and Chirurgical Society, Professor of the Principles and Practice of Medicine and of Clinical Medicine, and Dean of the Faculty in the University of London, Senior Physician in the North London Hospital, &c. &c.*

"Dr. Elliotson feels convinced of the phrenological being the only sound view of the mind, and of phrenology being as true, as founded in fact, as the science of astronomy or chemistry. *Twenty years* have elapsed since his attention was first directed to it, and, during the whole period, a day has not passed without some portion being devoted to its consideration."—*Ibid.*, p. 47.

*From JOHN F. ALLAN, Esq., Licentiate of the Royal College of Surgeons, Edinburgh.*

"I am convinced, from an attentive perusal of Mr. Combe's works, and *from having made a practical application* of his doctrines to the treatment of disease, that they constitute the true science of mind."—*Ibid.*, p. 63.

*From C. OTTO, M. D., Professor of Medicine in the University of Copenhagen, Physician to the Civil Prisons, Member of the Royal Board of Health, and of the Medical Societies in Copenhagen, Edinburgh, Stockholm, Paris, &c. &c. &c.*

"As far as *twelve years' observation and study* entitle me to form any judgment, I not only consider phrenology as a true science of mind, but also as the only one that, with a sure success, may be applied to the education of children, and to the

treatment of the insane and criminals. I have found it of the highest importance, as physician to the civil prisons, in acquainting myself with the character of the prisoners, and adapting my moral treatment of them to this knowledge. In my lectures on forensic medicine, I treat the chapter on insanity and responsibility phrenologically, and am by the science of phrenology more able to explain the subject than I would be by metaphysics, the doctrines of which badly accord with the precepts of common sense and daily experience. Upon the whole, I consider phrenology one of the greatest benefits that of late have been bestowed upon mankind."—*Ibid.*, p. 65.

*From DR. W. F. MONTGOMERY, Professor of Midwifery to the King and Queen's Colleges of Physicians in Ireland.*

"Some years ago, I devoted very considerable time to the study of phrenology, and the conviction of its truth and great value, in leading to a proper understanding of the operations of the mind, then impressed upon me, has been subsequently more and more confirmed."—*Ibid.*, p. 95.

*From GEORGE RENNIE, Esq., Sculptor.*

"As an artist, I have at all times found phrenology advantageous in the practice of my art; and that expression, in almost every case, coincided exactly with what was indicated by the cerebral development.—*Ibid.*, p. 98."

In the year 1836, Sir George Mackenzie addressed to Lord Glenelg, Secretary of State for the British Colonies, a memorial representing the great evils resulting from the neglect of a due classification of the criminals sent as convicts to New South Wales, and recommending such a classification of them as would prevent that indiscriminate mixture of the improvable and incorrigible, which occasions a still greater deterioration of the former, without advantage to the latter class. Sir George also recommended that, in justice to the colony, the best of the convicts only should be sent there, and that the

worst should be kept at home for discipline. He also recommended strongly to his lordship's attention the means developed by phrenology, as those on which the utmost reliance might be placed in making the desired classification. In support of this latter position, Sir George procured certificates from many men of high standing, which he forwarded with his memorial. These certificates, forty-six in number, have been published,\* and I here present extracts from some of them, containing the views on phrenology entertained by the respective writers, and their reasons for entertaining such views. The object of the testimonials will explain why they relate so particularly to the means phrenology affords of readily detecting, by the organization, those persons in whom there is a great tendency to crime.

*From DR. WILLIAM WEIR, Lecturer on the Practice of Medicine, formerly Surgeon to the Royal Infirmary of Glasgow, and joint Editor of the Glasgow Medical Journal.*

"I have paid much attention, during the last twenty years, to human physiology in general, and to the science of phrenology in particular, and have had many opportunities of comparing the form and size of the head in living individuals, with their talents and mental character. I have also been in the constant practice of examining the skulls and casts from the heads of deceased persons, and comparing these with their known mental characters, and their actions exhibited during life; and I have found a constant and uniform connection between the talents and natural dispositions, and the form and size of the head."—*Documents*, p. 1.

*From ALEXANDER HOOD, Esq., Surgeon, Kilmarnock.*

"Having, for many years, devoted a considerable time to the study of phrenology, and tested its truth by the most severe and

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\* Documents laid before the Right Honorable Lord Glenelg, by Sir George Mackenzie, Bart., relative to the convicts sent to New South Wales. April, 1836. Edinburgh: John Anderson, Junr.—London: Longman & Co., and Simpkin & Marshall.

*conclusive experiments, the result has been a gradual but thorough belief in the truth of the doctrines which it promulgates.”—*Ibid.*, p. 2.*

*From EDWARD BARLOW, M. D., of the University of Edinburgh, Member of the Royal College of Surgeons of Ireland, Senior Physician to the Bath Hospital, and the Bath United Hospital, &c., &c.*

*“In early life I, through ignorance and inconsiderateness, joined in the doubts respecting phrenology that then prevailed; and mine was no sudden conversion, resulting from raised imagination, but the clear conviction produced by calm and patient inquiry.*

*“I consider the truths of phrenology to be as well established as are those of any other branch of natural science; being throughout not fanciful nor hypothetical assumptions, but rigid inductions from numerous and accurately observed facts.”—*Ibid.*, p. 4.*

*From DR. W. C. ENGLEDUE, late President of the Royal Medical Society of Edinburgh.*

*“Having been requested to state my opinion regarding the truth of Sir George Mackenzie’s communication, I do so with considerable pleasure, being convinced both of its benefit and applicability. On the latter point, I can speak with some degree of certainty, having numerous opportunities of testing the truth and application of the science in that division of the convict establishment situated at Portsmouth.”—*Ibid.*, p. 9.*

*From S. HARE, Esq. Proprietor and Medical Attendant of the Retreat for the Insane in Leeds.*

*“I gladly avail myself of the opportunity of stating to your lordship that I have repeatedly ascertained the characters of individuals through the medium of the principles of phrenology, and believe that very great advantage will result to the nation, from a proper application of those principles, in the classification of convicts, and the improvement of prison discipline generally.*

*“Having occasion to employ a number of servants, I beg to*

be permitted to state, that I prefer choosing them by their temperaments, and phrenological developments, than taking them on the characters given with them."—*Ibid.*, p. 11.

*From Dr. JAMES STEWART, Surgeon Royal Navy, and Physician Extraordinary to His Royal Highness the Duke of Sussex.*

"For some years past, I have paid much attention to the science of phrenology, and I am firmly of opinion that the natural dispositions are indicated, by the form and size of the brain, to such an extent as to render it quite possible, during life, to distinguish men of desperate and dangerous tendencies from those of good dispositions."—*Ibid.*, p. 12.

*From H. C. WATSON, Esq., F. L. S., late President of the Royal Medical Society of Edinburgh, author of the "Geography of British Plants," and other works.*

"I have the honor to offer to your lordship my humble testimony in support of the science of phrenology, being convinced, after several years of careful attention to the subject, that it is quite possible to determine the dispositions of men by an inspection of their heads, with so much precision as to render a knowledge of phrenology of the utmost importance to persons whose duties involve the care and management of criminals."—*Ibid.*, p. 15.

*From JAMES SIMPSON, Esq., Advocate, City Assessor of Edinburgh, and author of "Necessity of Popular Education as a National Object."*

"Referring to the experiment on phrenological principles, proposed by Sir George Mackenzie, for ascertaining the distinctive characters of a number of convicts, I respectfully beg to offer to your lordship my humble opinion, founded on fifteen years' experience, that the test will be entirely satisfactory, and show that character may be ascertained from cerebral development, as indicated externally on the head."—*Ibid.*, p. 18.

*From DR. FRANCIS FARQUHARSON, Fellow of the Royal College of Surgeons of Edinburgh, and Vice-President of the Phrenological Society.*

"I beg to state my firm conviction, that it would completely answer the object in view. This belief does not rest upon

theoretical grounds, but is *the result of an extensive experience during the last ten or twelve years.*"—*Ibid.*, p. 19.

*From DR. C. OTTO, Professor of Materia Medica and Forensic Medicine in the University of Copenhagen, Physician to the Civil Penitentiary, Member of the Royal Board of Health, the Royal Medical Society at Copenhagen, and thirteen other Medical Societies abroad, Editor of the "Danish Medical Journal," "Bibliothek for Lieger," &c. &c.*

"I hereby certify, that from *my own observation and experience*, I consider it quite possible to distinguish men of strong animal propensities, who, when left uncontrolled by authority, or when excited by intoxication, would be dangerous to society, from men of mild dispositions, by examining their heads during life. I further certify, that I have practically applied this method of distinguishing the natural dispositions of men, and found it uniformly successful."—*Ibid.*, p. 23.

*From DR. ROBERT HUNTER, Professor of Anatomy, &c., in the Andersonian University, Glasgow.*

"For more than *thirteen years I have paid some attention to phrenology*, and I beg to state, the more deeply I investigate it, the more I am convinced in the truth of the science. I have examined it in connection with the anatomy of the brain, and find it beautifully to harmonize. I have tested the truth of it on numerous individuals, whose characters it unfolded with accuracy and precision. For the last ten years, I have taught phrenology publicly, in connection with anatomy and physiology, and have no hesitation in stating that, in my opinion, it is a science founded on truth, and capable of being applied to many practical and useful purposes."—*Ibid.*, p. 34.

*From CHARLES MACLAREN, Esq., Editor of the Scotsman.*

"I beg leave to state, that I have paid some attention to phrenology *during the last seven years*—that I believe its principles to be substantially true, and am convinced that the natural dispositions are indicated by the form and size of the brain to such an extent as to render it quite possible, during life, to

distinguish men of desperate and dangerous tendencies from those of good dispositions."—*Ibid.*, p. 37.

From DR. JOHN MACKINTOSH, Surgeon to the Ordnance Department in North Britain, Lecturer on the Principles of Pathology and Practice of Physic, Fellow of the Royal College of Surgeons of Edinburgh, &c.

"I was formerly not only an unbeliever in phrenology, but a determined scoffer, and my conversion was slowly produced by the occurrence of individual cases that were accidentally brought before me; and I would now risk all I possess upon the general results drawn from the examination of the heads of one hundred convicts, by qualified persons I could name."—*Ibid.*, p. 47.

From H. MARSH, M. D., M. I. R. A., one of the Physicians to Stevens' Hospital, Consulting Physician to the Dublin General Hospital, St. Vincent's Hospital, &c.; ROBERT HARRISON, M. D., M. R. I. A., Professor of Anatomy and Physiology, Royal College of Surgeons in Ireland; RICHARD T. EVANSON, M. D., M. R. I. A., Professor of Physic, Royal College of Surgeons in Ireland; JAMES ARMSTRONG, D. D., M. R. I. A.; FRANCIS WHITE, Esq., President of the Royal College of Surgeons in Ireland; W. F. MONTGOMERY, Esq., M. D., Professor of Midwifery to the King's and Queen's College of Physicians in Ireland; WM. W. CAMPBELL, Esq., M. R. I. A., Demonstrator of Anatomy to the College of Surgeons in Ireland, Resident Assistant Physician to the Dublin Lying-in-Hospital; ANDREW BOURNE, Esq., Barrister; THOMAS EDWARD BEATTY, M. D., late Professor of Medical Jurisprudence, Royal College of Surgeons in Ireland; ARTHUR E. GAGER, Esq., L. L. D., Barrister; ANDREW CARMICHAEL, Esq., M. R. I. A.; JOHN HOUSTON, M. D., Curator of the Museum, Royal College of Surgeons, Ireland; H. MAUNSELL, M. D., Professor of Midwifery to the Royal College of Surgeons in Ireland, &c.

"We declare our belief, from what we know or have seen of the science of phrenology, that the natural dispositions are indicated by the size and form of the brain to such an extent, as to render it quite possible, during life, to distinguish men of desperate tendencies from those of good dispositions."

The foregoing evidence is chiefly that of Europeans. I here introduce the testimony of Americans distinguished for their high character, and their scientific and professional attainments :—

From JOHN BELL, M. D., *Lecturer on the Institutes of Medicine, Medical Jurisprudence and Materia Medica; Fellow of the College of Physicians of Philadelphia; Corresponding Member of the American Philosophical Society, &c. &c.; author of various Medical works, and Editor of the Eclectic Journal of Medicine and American Medical Library.*

PHILADELPHIA, November 4th, 1841.

ANDREW BOARDMAN, M. D.

DEAR SIR :—I cheerfully accede to the wish expressed in your letter of the 30th ultim<sup>d</sup>, viz: that I would give my opinion of phrenology, and the grounds of that opinion.

I regard phrenology as the only system of mental philosophy which can be said to indicate, with anything like clearness and precision, man's mixed, moral, and intellectual nature, and as the only guide, short of revelation, for educating him in harmony with his faculties as a being of power ; with his wants, as a creature of necessity ; and with his duties, as an agent responsible to his Maker, and amenable to the laws declared by the All-wise Providence.

I have been, for twenty years, an observer, and I may say a student of phrenology, in nearly all its important bearings on man individually, and man socially considered. I have noted the connection between cerebral organization and mental manifestation, and have never seen marked activity of the latter without corresponding development of the former. Whenever I have met with a powerful reasoner, a man prompt to trace the causation of things, to deduce large and general views from premises previously collected, either by himself or by others, I have found in him the organs of the upper part of the forehead or anterior portion of the cerebrum full. On the other hand, I have not seen any mere collector of knowledge or voluminous recorder of facts and phenomena, and whose intellect was not capable of fashioning these materials into an expressive and harmonious whole, who exhibited well-developed organs of causality. Genius in a particular artment, whether in the fine or useful arts, has presented

in the head of its possessor corresponding cerebral development, as in the organs of form, color, constructiveness, &c. The fluent speaker, the ready linguist, has always presented to me the organ of language large.

Uniformly I have found a large development of the organs of the propensities in those who are ardent, impetuous, irascible, quick to resent injury, and pugnacious or violent in the mode of manifesting their feelings. Coincidence equally strong has always been noticed by me, between the evidence of the kindlier affections and sentiments of our nature and the developments of a particular region of the brain as indicated by phrenology.

Of the innateness and distinct and separate character of the faculties, as exhibited by phrenology, I have found, in addition to the proofs in every-day life in the community in which I live, an accumulation of evidence in the biographies of men of genius, whether they were mathematicians or poets, painters or musicians.

In no scholastic system of philosophy or of ethics, have I been able to see, as I so clearly and fully do in phrenology, an explanation, not only of great differences in character between man and man, but, also, of the varied colors, the often-changing contrasted light and shade in the character of the same person. In all the collegiate discoveries and teaching in moral philosophy, man's real nature, as exhibited in his daily life, seems to have been made the exception, and arbitrary and conventional modes of feeling and action the rule. Need we wonder that these prelections, and writings in a similar strain, have been so utterly barren of aught which could ameliorate the condition of man? There is one work only—the Book—in which man's contradictory nature—the warring of the spirit and the flesh, of the good and the evil principle, is illustrated by abundant examples and repeated commentaries, both for precept and warning, as well as to enforce charity. The narratives of the temptations, lapses, and penitence of the good men justified, in the sacred Scriptures, have been at times a stumbling-block to the devout, and often causes of ribald and profane jest with the impious. Read with a knowledge of human nature as unfolded by phrenology, the doubt and the scandal must soon cease. And here I would remark that a strong and most satisfactory proof of the truth and the value of phrenology, to my mind, is its perfect accordance with the language and spirit of Scripture,

both as relates to man's mixed nature, and to his faculties and capabilities for receiving instruction, in which there is such wide differences. If these differences be made the ground for accusations of fatalism against phrenologists, they will act more wisely, in consideration, especially, of the sources whence these accusations emanate, to hand them over to the divines and theologians; for, to these latter, ought the defence to be entrusted, since, in no record of philosophy or doctrine, are there so many facts and sayings startling to the superficial inquirer, as in the Bible. I venture the more to refer to the coincidence between the philosophy of mind, or rather of man's nature, as exhibited in this Book and in phrenology, because a re-perusal of the sacred writings in, as I hope, a proper frame of mind, confirms strongly my first opinions on this head.

But I need not enlarge, in a letter, on the value, in every light in which they can be regarded, of the principles and doctrines of phrenology. You are, I believe, aware, that I have not lost what I conceived any fit opportunity of explaining and defending the science from the year 1822, when I gave two lectures on the subject, before the then recently organized Phrenological Society of Philadelphia, to the present time.

I know not how far the preceding remarks, penned amidst frequent interruptions, meet the wish expressed in your letter. They will be sent with the hope that they may answer your object. Wishing you success in the present undertaking, I remain,

Yours, with esteem,

JOHN BELL.

*From AMOS DEAN, Esq., Counsellor at Law, Professor of Medical Jurisprudence in the Albany Medical College, author of "The Philosophy of Human Life," &c.*

ANDREW BOARDMAN, M. D.

ALBANY, September 18th, 1841.

DEAR SIR:—I have received your favor of the 6th instant, in which you request my opinion of phrenology, together with the grounds on which that opinion rests. About ten years ago, I had occasion to investigate the science, and to make tolerably familiar with its principles. As a science of

mind, its simplicity, its method, the satisfactory solution it affords to the complicated action of intellectual and affective faculties in giving a clearer perception of the force and power of motive, and of the nature of will, must commend it to all those who are desirous of seeing psychological phenomena embraced within a beauteous and harmonious system. In the observations I have been enabled to make, I am satisfied that it conforms to nature in all its leading positions. I may add, that, as professor of medical jurisprudence, I have had to investigate the subject of insanity, and that without the aid of phrenology I should have been utterly unable to explain, in any satisfactory manner, the great number of well-attested facts, fully substantiating many varieties of partial insanity, both intellectual and moral, especially the latter. With the aid of those principles the morbid exhibitions of mind are brought within the limits of arrangement and classification, and the application of legal rules and principles to their various phases becomes comparatively easy. The great purposes of education, of criminal legislation, and of the application of legal principles to the different varieties of mental alienation, can never, I apprehend, be fully answered until the doctrines of phrenology are recognized and acted upon.

I am, with much regard,

Yours, sincerely,

AMOS DEAN.

*From SAMUEL S. RANDALL, Esq., Deputy Superintendent of Common Schools for the State of New-York.*

ALBANY, September 18th, 1841.

To ANDREW BOARDMAN, M. D.

DEAR SIR:—I have attentively investigated the subject of phrenology, and availed myself, so far as was within my power, of all the light which has been shed upon it by the philosophers and scientific men of Europe and America, whether in favor of or opposed to the science, and I am free to avow my firm conviction of its truth and importance. In common with thousands of others, I had regarded it as one of the baseless delusions of a distempered imagination, destined to run its temporary career, and sink into oblivion; and, without examining its pretensions or its proofs, had joined in the ridicule with which its progress

has been so generally and so unjustly greeted. My attention was first seriously attracted to its details by the perusal of Mr. Combe's invaluable work on "Moral Philosophy," and Mr. Dean's "Philosophy of Human Life." So clearly and convincingly were many of the most complicated problems of nature and philosophy unfolded and explained in these works, that I was irresistibly impelled to a careful and thorough investigation of the sources from whence views so interesting and important purported to emanate. I omitted no opportunity of comparing the results of these investigations, not only with the various facts and phenomena in the natural world, daily transpiring, but with the allegations and arguments of the most distinguished opponents of the science. With respect to the latter, it is easy to conceive that, in the absence of an accurate knowledge of the principles of phrenology, the reasoning employed and the facts adduced may, in many instances, seem conclusive—an assumption which vanishes at once with a familiar acquaintance with the new philosophy. The testimony of nature may always be confidently relied on; and, so far as my observation and experience have extended, her responses have uniformly coincided with those of our science.

My attention, for several years past, has been principally directed to the subject of primary education; and I confess that I do not look for a full realization of the high expectations of our statesmen and philanthropists, with reference to the education of the rising generation, until our system of public instruction shall be based, by the operation of an enlightened public sentiment, upon the true principles of the philosophy of the mind. It is in this field—that of popular education—that the most abundant and gratifying harvests of truth are destined, ultimately, to be reaped; and it is my most earnest desire that the pure, elevating, and ennobling principles which have characterized the writings of Gall, Spurzheim, and Combe, may be gradually, but effectually, disseminated among the youth of our republic. By these means alone will they be enabled early to know and to understand their complicated and mysterious nature; timely to avoid those terrible shoals and quicksands which beset their voyage through life, and effectually to consult their true interest as intelligent, moral, and religious beings.

With sentiments of the highest respect,

I am, sir, your obedient servant,

SAMUEL S. RANDALL,

Dep. Sup. of Public Schools, State of N. Y.

**From SILAS JONES, Esq., Counsellor at Law, formerly Superintendent of the New-York Institution for the Blind, and Superintendent of the House of Reformation for Juvenile Offenders, Boston; author of a work on Phrenology, &c.**

NEW-YORK, September 25th, 1841.

DEAR SIR:—In answer to yours of the 16th inst., in which you inquire as to my opinion of phrenology, and my grounds for such opinion, I reply that I have the strongest convictions of the truth of its doctrines, and of its immense utility to man. The views advanced by me in the little work which I published in 1836, remain entirely unshaken. I have, for the last nine years, made phrenology a subject of the most careful *study and investigation*, having in that time *examined and carefully noted the organizations of some thousands* of individuals, embracing those most remarkable for their mental and moral excellencies, and those of the opposite extremes of character, in prisons and elsewhere. A kind of evidence less striking, but more conclusive, to my mind, was obtained from observing individuals of the middle classes, and especially the independent farmers, whose characters have few disguises. Children, too, have attracted my attention, having, as you are aware, been much with them during the last five years.

I am, sir, with sentiments of respect, yours, truly,  
SILAS JONES.

To ANDREW BOARDMAN, Esq.

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**From NATHAN ALLEN, A. M., M. D., late Editor of the American Phrenological Journal and Miscellany.**

PHILADELPHIA, October 1st, 1841.

To ANDREW BOARDMAN, Esq., M. D.

DEAR SIR:—It is nearly fifteen years since my attention was directed to the subject of phrenology. At first, my prejudices were decidedly against it; but, partly from curiosity, and partly with the design of obtaining materials with which more effectually to oppose it, I was led to procure and examine several of Dr. Spurzheim's works. By this means, my prejudices were somewhat removed, and I was induced to test the

truth of phrenology by an appeal to nature. It was not till after several years of careful and extensive observations that I became fully convinced of the truth of its principles—a conviction which I now entertain as firmly, and by the same kind of evidence, as my belief in the truths of chemistry, geology, or any of the natural sciences. It is my firm belief that in phrenology alone can we find a true exposition of the functions of the brain, and the faculties of the mind; and that the principles of this science are susceptible of the most important application to medicine, insanity, legislation, education, jurisprudence, and political economy, as well as to the improvement of various institutions, manners, and customs of society.

I am, dear sir, yours, truly,

NATHAN ALLEN.

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From J. V. C. SMITH, M. D., *Editor of the Boston Medical and Surgical Journal, Professor of Anatomy, &c., Health Officer of the Port of Boston, &c., &c.*

BOSTON, October 5th, 1841.

DEAR SIR:—Formerly I had the honor of holding a chair of General Anatomy and Physiology in a medical college, where it especially devolved upon me to demonstrate the brain. My prejudices against the science of phrenology were so strong, that, instead of investigating its claims, as would have become a public teacher, it mortifies me exceedingly to acknowledge that no effort was spared to lessen the dignity of the subject; and, as far as my humble individual influence could be exerted on classes of medical students, I endeavored to prove that the doctrines of phrenology existed, not in nature, but in the imaginations only of its advocates. But, sir, subsequent years of observation, during which I have been in favorable circumstances for experimenting, to any extent, have radically changed my views. My own personal investigations have immovably established, in my mind, the great and important truths of phrenology.

Very truly and respectfully yours,

J. V. C. SMITH.

NEW BOARDMAN, M. D.

From CHARLES A. LEE, M. D., Professor of *Materia Medica* and *Medical Jurisprudence*, author of a work on *Physiology*, &c., &c.

NEW-YORK, October 7th, 1841

DR. A. BOARDMAN—

DEAR SIR:—In answer to your note, I have no hesitation in stating my belief that the science of phrenology is founded in truth, and is as well supported by facts as almost any other department of physiology. It is no less evident to my mind that it has a most important bearing on human happiness, connected, as it intimately is, with education, with the treatment of insanity in every shade of mental aberration, with medical and civil jurisprudence, and with the intellectual, moral, and physical management of children.

I was strongly prejudiced against the phrenological doctrines until strongly corroborative cases accidentally presented themselves, which induced me to make those doctrines a particular subject of study, since which, every day's observation confirms me more and more in the conviction that they are founded in nature, and that they constitute the true physiology of the brain. The fundamental principles of the science are, indeed, so legibly written in our organization, that to be convinced of their truth we have only to keep our eyes open as we pass through the world, and, as we have opportunity, compare known traits of character with cranial conformation. Such practice would, in a short time, make phrenologists of us all.

Wishing you every success, I remain, truly,  
Your friend and obedient servant,

CHARLES A. LEE.

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From the Rev. JOSEPH A. WARRE, A. M., author of "Phrenology in the Family," editor of the Baptist edition of the Comprehensive Commentary, of Gamber's Treatise on Moral Evidence, &c. &c.

FRANKFORD, (near Philadelphia,) October 13th, 1841.

ANDREW BOARDMAN, Esq.

DEAR SIR:—In answer to your favor, permit me to say that, in common with many others, I was formerly the subject

of a strong prejudice against phrenology, but when the lamented Spurzheim came to this country, I sought his acquaintance, and determined on giving his lectures a hearing, and the subject as thorough an examination as was in my power. The first result was a conviction that I had not previously understood the pretensions of phrenology, and that if it should prove to be true, it was highly, *very highly* important. I then began to observe nature for myself, and soon became convinced that there was a uniform correspondence between cerebral development and mental manifestation. The avowal of this conviction was slowly and cautiously made; but as the conviction strengthened, it became more frequent and more confident. By embracing phrenology, I have been a loser in some respects, but I believe, and, indeed, *know*, from long continued and numerous examinations of nature, that *phrenology is true*; and I trust that whenever called upon in a proper way to express this belief, I shall not be wanting in the honesty and courage to do so; and if this avowal can subserve the cause of truth, you are at liberty to use it in what way you please.

I remain, dear sir, very respectfully,  
Your obedient servant,  
JOSEPH A. WARNE.

*From ELISHA BARTLETT, M. D., Professor of the Theory and Practice of Physic in the Medical Department of Transylvanian University.*

LEXINGTON, October 18th, 1841.

ANDREW BOARDMAN, M. D.

DEAR SIR:—I am afraid that such testimony as I may be able to give you will not be of the character which you require. I am not a practical phrenologist; that is, I have not made the study and observation of the special organology a matter of practice sufficiently to speak with confidence. I can only say, that from study and observation, I am very well satisfied of the truth of the general principles and doctrines of phrenological physiology of the brain.

Very respectfully,  
Your friend,  
ELISHA BARTLETT.

*From JAMES SHANNON, A. M., late President of Louisiana College, President of Bacon College, Kentucky, and Professor of Mental, Moral and Political Science in that Institution.*

BACON COLLEGE, HARRODSBURG, Ky., October 20th, 1841.

DR. ANDREW BOARDMAN—

DEAR SIR:—In answer to your letter of the 5th instant, I have great pleasure in stating my firm belief in the truth of the fundamental principles of phrenology. This belief is the result of the most thorough investigation that I have been able to give the subject, and was produced (in opposition to previous prejudices) by evidence that to my mind seemed almost, if not altogether, irresistible. From the first examination which I gave the subject, about five years ago, I was compelled to believe in its substantial truth, and great practical utility. Subsequent and more extended examination has but confirmed me in this belief.

Yours,

JAMES SHANNON.

*From S. G. HOWE, Esq., M. D., Director of the Perkins Institute for the Education of the Blind.*

BOSTON, October 25th, 1841.

To DR. BOARDMAN.

DEAR SIR:—I have for many years been satisfied, from personal observation, that the general principles of phrenology are founded in nature. In the institution for the education and reformation of youth with which I have been connected, directly or indirectly, I have found a knowledge of these principles to be of great assistance.

I believe that an acquaintance with phrenology, particularly the doctrine of the temperaments, would be of great use to education.

Your very obedient servant,

S. G. HOWE.

*From WINSLOW LEWIS, Jr., M. D., M. M. S. S., Translator of Dr. Gall's work "On the Origin of the Moral Qualities and Intellectual Faculties of Man, and the Conditions of their Manifestations."*

BOSTON, October 26th, 1841.

MY DEAR SIR:—It gives me much pleasure that you are engaged on a subject which—viewing it, as I do, as the most

satisfactory expositor of the science of the mind—is of the first importance. My belief in the correctness of its principles is based on deductions which are the results of some considerable experience. I have found its theory borne out by facts; and on tests thus supported by evidences from nature, my convictions are established in favor of phrenology.

I am, dear sir, yours,

WINSLOW LEWIS, Jr.

To ANDREW BOARDMAN, M. D.

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*From the Rev. DAVID SYME, A. M.*

WEST FARMS ACADEMY, 3d November, 1841.

To DR. BOARDMAN.

DEAR SIR:—My attention was first directed to phrenology, many years ago, by Mr. Lawrence Macdonald, the eminent sculptor. Shortly before this, I had entered upon my collegiate course, and, as I had ample opportunity, I resolved to judge for myself of its truth or falsehood, and rigidly to scrutinize the principles on which it professed to rest; and, determined to admit nothing before I could substantiate it by facts, and though I often doubted, yet feeling much gratification in the study of the science, I resolved to prosecute my inquiries, whatever the result might be. I carefully noted the temperament and configuration of head peculiar to those who excelled in any department of literature or science, or who possessed any singular traits of character. After numberless observations, made during a series of years, and in the midst of the most favorable circumstances, I became fully convinced that phrenology was based on truth, and that its claims to be considered the only true science of mental philosophy, were well founded—a conclusion which has been confirmed by many subsequent observations.

I deem a knowledge of phrenology indispensably necessary to teachers; and, from my own experience, may state that, by my acquaintance with this important science, I find my labors greatly alleviated, my ends more effectually promoted, and the duties of a profession, generally considered irksome and disagreeable, rendered comparatively pleasant. I may further state that I have studied phrenology in connection with Christianity; and though some have supposed that, in establishing

the truth of the one, the other would be necessarily overthrown, I have found between them a remarkable harmony.

I am, dear sir,

Yours, sincerely,

DAVID SYME.

In drawing this testimony to a close, I will bring forward a few witnesses from among distinguished superintendents of insane asylums—men eminently qualified to decide, not only on the truth, but the utility of phrenology.

*From DR. JAMES SCOTT, LL. B., Surgeon and Lecturer to the Royal Hospital at Haslar, Surgeon and Medical Superintendent of the Royal Naval Lunatic Asylum, &c., &c.*

“Having for many years viewed phrenology unfavorably, by the false light of prejudice, chiefly from having read a most illogical and witty, but virulent attack on the system, published in the Edinburgh Review, now well known as the production of the late Dr. John Gordon, who assailed it, anonymously, with all the shafts of ridicule, my attention was powerfully arrested by attending a course of lectures on the subject by the late amiable and highly-gifted Dr. Spurzheim, at Paris, and by another course of lectures delivered by Mr. Combe, in Edinburgh; and *after some more years, spent in careful study and observation*, I became a sincere convert to the doctrines of Gall and Spurzheim.

“I beg to assure your lordship that my conversion is the result of an honest and careful examination; and as I have been for nearly ten years the medical attendant of the lunatic asylum in this great hospital, my opportunities, at least, of observing, have been great indeed; and a daily intercourse with the unfortunate individuals entrusted to my care and management, (whose number has never been less than one hundred and thirty persons, and often many more,) has firmly, because experimentally, convinced me that mental disorder and moral delinquency can be rationally combated *only* by the application of phrenology; and that the man who treats them on any other

system, will much oftener be disappointed, than he who studies the manifestations of mind, and traces effects to their secondary causes, by the almost infallible beacon of phrenology."—*Mackenzie's Documents*, p. 13.

From SIR WILLIAM C. ELLIS, M. D., *Superintendent of the Lunatic Asylum for the county of Middlesex, at Hanwell, author of "A Treatise on Insanity."*

"After many years' experience, I am fully convinced the dispositions of men are indicated by the form and size of the brain, and to such an extent as to render it quite possible to distinguish men of desperate and dangerous tendencies from those of good dispositions. I have been the resident physician in this establishment, where we have upwards of six hundred patients, for five years, and for thirteen years previous held a similar situation in Yorkshire, where we had two hundred and fifty. If it was necessary, I could mention a great variety of cases, in the treatment of which I have found the little knowledge I possess of this interesting science of the greatest utility; and I am fully persuaded that when it is more known, and acted upon, very great advantages will result to society."—*Ibid.*, p. 16.

From W. A. F. BROWNE, Esq., *Medical Superintendent of Montrose Lunatic Asylum, author of "Lectures on Insanity," President of the Royal Medical, Royal Physical, and Plinian Societies, &c.*

"I hereby certify, that I have been acquainted with the principles of phrenology for upwards of ten years; that from proofs, based upon physiology and observation, I believe these to be a true exposition of the laws and phenomena of the human mind; that during the whole of the period mentioned, I have acted on these principles, applied them practically in the ordinary concerns of life, in determining and analyzing the characters of all individuals with whom I became acquainted or connected, and that I have derived the greatest benefit from the assistance thus obtained. But although the

lity of the science be most apparent in the discrimination

of the good from the bad, those of virtuous and intellectual capabilities from the brutal and the imbecile, it is not confined to this. In the exercise of my profession, I have been enabled, by the aid of phrenology, to be of essential service in directing the education of the young as a protection against nervous disease, and in removing or alleviating the various forms assumed by insanity in the mature. For several years I have devoted myself to the study of mental diseases and the care of the insane. During my studies at Salpetrière, Charenton, &c., in Paris, I was able to derive great additional information from my previous knowledge of phrenology; and now that I have been entrusted with a large asylum, I am inclined to attribute any little success that may have attended my efforts to ameliorate the condition of those confided to my charge, to the same cause."—*Ibid.*, p. 22.

*From RICHARD POOLE, M. D., Fellow and Joint Librarian of the Royal College of Physicians of Edinburgh, author of various articles in Periodical Journals and the Encyclopedia Edinensis,—as Language, Philology, Mathematics, Mind, Philosophy and Education.*

"During several years, actively employed, I have found the principles of phrenology available in very important duties,—more especially in the treatment of insanity, to which, as a professional man, my attention has been greatly directed; and I feel warranted, by long study and observation, in maintaining the opinion, that it is practicable to distinguish individuals, having naturally very low and dangerous characters, from others who are naturally well constituted and disposed."—*Ibid.*, p. 36.

*From H. A. GALBRAITH, Esq., Surgeon to the Glasgow Royal Lunatic Asylum.*

"Situated as I am, in the midst of a wide field for observation, more particularly in regard to disordered mental manifestations, I have been, for several years past, led to compare these with the phrenological development of the individuals in

whom they appeared ; and, from the result of numerous and well marked instances, which have not only been known to me during a state of morbid activity, but from authentic accounts of the previous mental indications, I have not the least hesitation in declaring my firm belief in the general doctrines of phrenology."—*Ibid.*, p. 39.

From SAMUEL B. WOODWARD, M. D., *Superintendent and Physician to the Massachusetts State Lunatic Asylum.*

STATE LUNATIC HOSPITAL,  
WORCESTER, (Ms.) September 24th, 1841. }

ANDREW BOARDMAN, M. D.

DEAR SIR :—Your letter of the 20th, reached me seasonably. In reply, I say that I have felt an interest in phrenology, but am not versed in the science.

So far as my observation has extended in the investigation of the cases of insanity that have come under my care, the principles of the science have been sustained. Where we have found any remarkable development, we have rarely failed to find corresponding manifestations of mind and feelings. In some cases this has been quite remarkable. I am far from believing, however, that insanity is the best state of mind in which to test natural character by these principles. Of ten times faculties and propensities, naturally inactive, and by no means predominant, become active under disease. Thus, often the insane man is a poet, a wit, a religious devotee, when he has shown no evidence previously that his mind ran in those channels. So also the man of sense, and judgment, and genius, is as often dull, timid, irresolute, wants decision of character, and a strong motive to excite him on any subject.

Very respectfully, yours,  
S. B. WOODWARD.

The high character, the scientific and professional rank and acquirements of the foregoing witnesses, and the nature of their testimony, ought to render any attempt to support that testimony superfluous ; yet I will offer a few considerations in its favor, such as are allowed, by all writers on evidence, to be of great weight.

I remark, in the first place, that the testimony given is

chiefly that of gentlemen educated in the old systems of philosophy and physiology, and who commenced their investigations of phrenology with strong bias against it. It is greatly in favor of their sincerity, and of the force of phrenological facts and conclusions, that they became convinced of their truth, despite their prior opinions, and the greater or less strength of their prejudices.

It is worthy of notice, too, that they became supporters of phrenology against the ordinary suggestions of self-interest, and in the face of the ridicule and reproach cast on it and its adherents by those whose praise was deemed of high value, and whose censure was dreaded; when phrenology was denounced as "thorough quackery," "despicable trumpery," (*Edinburgh Review*;) "a wild effusion of a bewildered imagination," (*Encyclopaedia Britannica*;) "a patch-work system of conjecture and speculation," (*Blackwood's Magazine*;)—when phrenologists were represented as "deficient in learning and accuracy," (*North Am. Rev.*;) as characterized by "absolute insanity, gross ignorance, or the most matchless arrogance," (*Edin. Rev.*;) and were held up to public contempt as "the dupes of empirics," (*Edin. Rev.*;) "infernal idiots," (*Blackwood's Mag.*;) and "crazy sciolists," (*London Literary Gaz.*) The claims of phrenology must be very strong, when, notwithstanding such bitter denunciation and mockery from such sources, those claims are allowed and advocated by men of acute and practised intellects, to whom scientific and professional reputation is dear.

Again, the clearness, definiteness, and fairness of the phrenologists, strikingly manifest their sincerity and undoubting confidence. They give the utmost publicity to their facts, their methods of investigation, and their sequences. They collect skulls from the ancient tumuli; from the catacombs of Rome and Egypt, and the sands of Lybia; from the caves of the Peruvians and Mexicans, and the mounds of the North American tribes; from modern battle-fields and grave-yards—in short, from every race, class, and variety of the human family. Not

content with this, they obtain skulls, casts, and drawings of known individuals, of every variety of disposition and talent—of the warrior, the statesman, the orator ; of the poet, the musician, the painter, the mathematician, and the mechanician ; the proud man and the humble ; the cruel and the merciful ; the poltroon and the brave ; the irreverent and the pious ; of the man of predominating sentiment, and of predominating passion and selfishness ; of the intellectual giant and the idiot. All are gathered into the mute yet eloquent assemblage of phrenological teachers that constitute the phrenologist's cabinet. It is evident that, if the new doctrine of the brain is not true, these cabinets furnish ample means for its refutation, and that phrenologists take infinite pains to secure their own discomfiture.

The amount of expense and labor lavished in the collection of specimens has, in some instances, been very great. Mr. Deville, of London, possesses a cabinet of many thousands of skulls and casts—1,500 casts of persons taken when living; 150 of criminals ; 120 illustrative of insanity ; 50 of persons distinguished for devotional feeling ; 40 of distinguished artists, painters, sculptors, and architects ; 30 of navigators and travellers ; 80 of poets and other literary characters ; 70 of musicians, &c. ; 140 illustrative of the change which takes place in the form of the head from certain courses of mental exercise ; 350 casts of distinguished legislators, judges, lawyers, astronomers, engineers, actors, &c. ; 120 masks of distinguished persons ; 150 skulls, and 350 casts of skulls of persons of different nations, including casts of all the authenticated skulls in the Museum of Comparative Anatomy of Paris ; 800 busts of ancient philosophers and others, taken from the marbles originally in the Louvre, Florentine and Prussian galleries and private collections ; and upwards of 3,000 skulls of animals. Not content with this enormous collection, Mr. Deville is continually increasing it. No sooner does he hear of any one, whose mental manifestations are remarkable, than he is on his track ; his cast must be taken—his plaster pre-

sentiment denized in this city of heads. It is highly characteristic of sincerity and intelligent confidence, thus to multiply observations; and, by affording facilities of investigation, to leave enemies without excuse for their ignorance and hostility.

The sincerity and confidence of the phrenologists appear preëminently in their readiness to submit their conclusions to the tests of the most trying experiments; and by the success of such experiments is the truth of those conclusions established. If the form of the brain, and the developments of its various parts, be of no import, then, clearly, with the brain, skull, or head, from which alone to infer peculiarities of character, the phrenologist would be completely at fault—all would be guess-work. Yet, in marked cases, the phrenologist can tell, with striking accuracy, the prominent mental characteristics from the developments of the brain alone. Here, then, is a dilemma for those who deem the principles of phrenology improbable. A slight acquaintance with the doctrine of chances will show that the improbability of those principles being true, is trifling in comparison with the improbability, if they are false, of the phrenologist being able to infer character from cerebral developments. As a mere matter of faith, therefore, the believer in phrenology is the most rational.

That phrenologists have the power of correctly inferring character from developments, in striking cases, at least, the following facts will sufficiently prove:—

In Nos. XCVII. and XCVIII. of the *Freymüthige*, May, 1805, there is published an account of Dr. Gall's visits to the prisons of Berlin and Spandau. Demangeon has given an account of this visit in his *Physiologie Intellectuelle*, Paris, 1806; and Dr. Gall, in his work on the Functions of the Brain, v. vi., p. 295.

On the 17th of April, 1805, Dr. Gall, in company with the directing commissaries, the counsellors Thürnagel and Schmidt, assessors Muhlberg and Wunder, Dr. Flemming, Professor Wildenow, and others, went through the prisons of Berlin. It was with great ease that Dr. Gall distinguished incorrigible

thieves from those who were less dangerous. In entering one of the prisons where women were confined for stealing, he pointed to one dressed precisely like the rest, and engaged in the same employment, and inquired why she was there, seeing that her head presented no indication of a propensity to steal. She was not a criminal, but the inspectress of works. He pointed out one prisoner, in whom a large organ of Acquisitiveness was joined with a particularly large organ of Veneration. To this prisoner the idea of robbing a church was quite revolting ; he could never summon resolution to do it.

Gall pointed out, in one man, without knowing for what he was confined, a large organ of Constructiveness, and a head so well organized that he several times lamented his fate. This was the tailor Maschke, who was imprisoned for counterfeiting the coin ; he possessed great mechanical skill, and much kindness of disposition.

Scarcely had Gall advanced a few steps into another prison, when he pointed out the organ of Constructiveness as equally developed in a man named Troppe ; and on examining him more closely, he found also a large organ of Imitation. This man had been a shoemaker, but had, without any teaching, learned watch-making. The crime for which he was convicted was in strict accordance with his organization. He had extorted a considerable sum of money, under the feigned character of an officer of police. When Gall said to those about him, "If that man had fallen in the way of comedians, he would have become an actor," Troppe confessed that he had at one time been a member of a strolling company—a circumstance which had not till then been discovered.

On Saturday, the 20th of April, Gall visited Spandau, in company with the Privy Counsellor Hufeland, Albrecht, Counsellor of the Chamber of Justice, Professor Reich, Dr. Meyer, and some others.

On seeing Kunisch, Gall said, "Here is an artist, a mathematician, and a good head ; it is a pity he should be here"

—an observation remarkable for its accuracy. Kunisch had shown so much talent for mechanics, that he was appointed inspector of the spinning machinery, the repairing of which was confided to him. Gall asked him if he knew arithmetic. “How could I invent or construct a piece of machinery,” he answered, with a smile, “without previously calculating all the details?” In Kunisch, the organ of Acquisitiveness was remarkably developed. He had committed a great number of burglaries.

In Régine Dœring, Gall pointed out the great size of the organ of Destructiveness, and the great deficiency of that of Love of Offspring. Dœring had had several children, of whom she had secretly got rid.

In one prisoner, Gall pointed out a large development of Tune. Kunow immediately acknowledged that he was passionately fond of music, and that he had acquired it with facility. The jail register was produced, and showed that he was an amateur who had spent his fortune. He was condemned for an unnatural crime. The cerebellum was enormously developed.

In young Brunnert, Gall remarked the predominance of Acquisitiveness, Locality, Constructiveness, and Self-Esteem. Brunnert had committed several robberies; had been confined in various prisons, from which he had escaped; he had fixed himself nowhere, but had joined the army; had undergone several castigations for insubordination, and had deserted. He was skilful in mechanics, and showed some exquisitely finished work in pasteboard, which he had executed in prison.

Gall pointed out large Acquisitiveness in an old soldier who was among the prisoners. He had been imprisoned for insubordination, however, not for theft; but on making further inquiry, it was found that he had been punished several times in the regiment for having stolen.

In his visits to the prisons of Berlin and Spandau, Dr. Gall examined many hundreds of heads, and astonished those who

accompanied him by the accuracy with which he told the distinguishing traits of character from the organization.

"In 1810," says Marquis de Moscati, "one of my lieutenants was killed at the battle of Lintz; he was a Pole, of a very violent temper, a bloody duellist, and much addicted to sensuality. I forwarded his skull to Dr. Gall, and in answer to my question, he replied that it belonged to an individual *very violent, ferocious, and sensual*. I was the only depositary of my secret."—*Lancet*.

Mr. Milne, who is well known for his excellence as a lamp-maker and brass-founder, gives the following account of a visit which Dr. Spurzheim made to his workshop:—

"On the first boy presented to Dr. Spurzheim, on his entering the shop, he observed that he would excel in anything he was put to. In this he was perfectly correct, as he was one of the cleverest boys I ever had. On proceeding further, Dr. S. remarked of another boy, that he would make a good workman. In this instance, also, his observation was well founded. An elder brother of his was working next him, who, he said, would also turn out a good workman, but not equal to the other. I mentioned that, in point of fact, the former was the best, though both were good. In the course of further observation, Dr. Spurzheim remarked of others that they ought to be ordinary tradesmen, and they were so. At last he pointed out one, who, he said, ought to be of a different cast, and of whom I would never be able to make anything as a workman; and this turned out to be too correct, for the boy served an apprenticeship of seven years, and when done, he was not able to do one-third of the work performed by other individuals, to whose instruction no greater attention had been paid. So much was I struck with Dr. Spurzheim's observations, and so correct have I found the indications presented by the organization to be, that when workmen, or boys to serve as apprentices, apply to me, I at once give the preference to those possessing a large Constructiveness; and if the defi-

ciency is very great, I would be disposed to decline receiving them, being convinced of their inability to succeed."—*Ed. Phren. Journ.*

Dr. Andrew Combe gives the following very interesting account of a circumstance, which occurred in his presence, while attending the lectures of Dr. Spurzheim, at Paris:—

"In the middle of the lecture of the 1st of December, 1818, a brain was handed in, with a request that Dr. Spurzheim would say what dispositions it indicated, and he would then be informed how far he was correct. Dr. Spurzheim took the brain without any hesitation, and after premising that the experiment was not a fair one, in as far as he was not made acquainted with the state of health, constitution or education of the individual, all of which it was essential for him to be aware of, before drawing positive inferences, he added that, nevertheless, he would give an opinion on the supposition that the brain had been a sound one, and endowed with an ordinary activity; after which, he proceeded to point out the peculiarities of development which it presented, and desired his auditors to remark the unusual size of the cerebellum, or organ of Amativeness, and the great development of the posterior, and of part of the middle lobe of the brain corresponding to the organ of the lower propensities, the convolutions of which were large and rounded, forming a contrast with the deficient size of the anterior lobes, which are dedicated to the intellectual faculties.

"The convolutions situated under the vertex and towards the top of the head, belonging to the organs of Self-Esteem and Firmness, were also very large, while those of Veneration and Benevolence were small. These peculiarities were so well marked, that Dr. Spurzheim felt no difficulty in inferring that the individual would be very prone to sensual indulgencies; that his natural tendencies would not be towards virtue; that he would be, what is familiarly expressed in French, by '*un mauvais sujet*,' being a very comprehensive term for every variety of bad dispositions, and that '*he would be one to whom*

*the law would be necessary as a guide;* but not knowing the circumstances in which he had been placed, he could not say what his actions might have been.

"At the conclusion of the lecture, a young man, an *élève interne* of the Hôtel Dieu, came forward, and said that the brain was that of a *suicide*, who had died in that hospital, and that the dispositions inferred by Dr. Spurzheim, coincided perfectly with those manifested during life. As I was, at the same time, following the surgical clinique of the celebrated Dupuytren, whose patient he was, and as the case was interesting, both in a professional and phrenological point of view, my attention had been particularly directed to this very individual, from the day of his entrance into the Hôtel Dieu, to that of his death, a period of about fourteen days; and I was thus better able to appreciate the perfect accuracy of Dr. Spurzheim's conclusions, than if I had merely trusted to the report of the *élève*. The man, it appeared, had been a soldier, and had for some crime suffered ignominious punishment, and had been dismissed from the army. He returned to Orleans to resume his trade of barber, but every one shunned him; and suspecting his wife to have been secretly his enemy, he attempted to kill her with a knife, and, being defeated in this, he stabbed himself in the side, was carried to the hospital, and died of the wound. As he lay in bed, the head sunk in the pillow; its size seemed to be small, but this arose from the anterior part, or the seat of intellect, (which was very deficient) being alone visible; the whole bulk consisting of the organs of the propensities. Dupuytren, when commenting on the case, in his lecture, made daily complaints of the man's *mauvais moral, imperiousness, and violence of temper*, and represented these qualities as great obstacles to his recovery; so that, altogether, the close coincidence between the facts with which I was familiar, and the remarks of Dr. Spurzheim, who had never seen the skull, and judged from the brain alone, as mis-shapen on a flat dish, made a deep impression on me, as it went far to prove, not only that organic size

had a powerful influence on energy of function, but that there actually were differences in different brains, appreciable to the senses, and indicative of diversity of function."—*Dr. Combe on Mental Derangement*, p. 8.

Mr. Levison, in a letter to the Edinburgh Phrenological Journal, (vol. v., p. 83,) describes a visit which Dr. Spurzheim made to the public establishments of Hull. I shall mention a few only of the cases narrated by him.

At the work-house, Dr. Spurzheim selected a boy and girl as instances of great difference of cerebral organization. The former had the frontal and coronal regions very finely developed, whilst in the latter the basilar and occipital regions presented a considerable predominance, the cerebellum being of uncommon size. "On the following day," says Mr. Levison, "when we went to take the models of these two individuals, the house-surgeon informed us that the girl had already indicated lewdness of manner, although *only five years old*." Her mother, we were told, was a very low and depraved prostitute, and her reputed father equally immoral and worthless. "This is a strong instance," said Dr. S., "of the influence of propagation manifesting itself in a most lamentable manner."

At the Refuge for the Insane, Dr. Spurzheim pointed to the organ of Marvellousness, largely developed in an old woman. She fancied herself troubled with "devils in the head," and said that she not only felt them, but frequently saw them, as they flew out of her head. She begged that some person would exorcise her.

At the town-jail, Dr. Spurzheim found in one man large Imitation, Secretiveness, Firmness, and Self-Esteem. The latter combination induced the doctor to remark that this person would always be a *leader*, and it appeared that he had always been the head man in all schemes of plunder. A boy, in whom the moral region was very defective, and Love of Approbation, Secretiveness, and Imitation extremely large, had expressed a wish that he might be enabled to commit many robberies, and, after some years, be brought to condign

punishment, and that when about to be hanged, he might hear the crowds below saying, "That is the celebrated — whose deeds were so daring." A fine lesson this for those who still advocate the vindictive and savage penalty of death, as conducive to public morals.

When at Liverpool, Dr. Spurzheim visited Kirkdale House of Correction. After passing through the prison, he was introduced into the court-house, and his attention directed to a female. He instantly pointed out the great deficiency of the organs of *Benevolence* and *Love of Offspring*, and the large development of *Firmness* and *Destructiveness*. After he had given his opinion, he was told that the female before him was the mother who had exposed her child on the North Shore.—*Phren. Journ.*

In Manchester, Dr. Spurzheim went through the prison with one of the first magistrates and several other gentlemen. Among other criminals, a female was presented to him, condemned to fourteen years' transportation. The organ of Acquisitiveness was large, but the organs of Cautiousness and Conscientiousness were small. At the same time, he directed the gentlemen present to her large organs of Veneration and Marvellousness, and the contradictory dispositions which this combination indicated. On inquiring in regard to her devotional character, he was informed that her conduct in church was exemplary, and that on the preceding Sunday she had been rewarded for it by the chaplain with a prayer-book.—*Notes to Chenevix's article on Phrenology, from the Foreign Quarterly Review*, p. 103.

On the night of April 30th, 1833, Mr. Hoskins, one of the guards of the Connecticut State Prison, was murdered by four convicts, in an attempt to escape.

"It is a little remarkable," says Dr. Brigham, in a letter to Mr. Capen, "that, when I visited the prison with Dr. Spurzheim, he pointed out the two leaders of this conspiracy and murder as very bad criminals. The negro Cæsar Reynolds, who, from the testimony, it appears, actually committed the

murder, he noticed when at some distance, and remarked, ‘*That negro interests me much;*’ and begged the liberty of examining his head more minutely. After he had done so, he said that he had the best formation, intellectually, of any negro he ever saw, (and he is far superior to most blacks;) but stated that he was a wretched and dangerous man, capable of doing any wickedness, and one that would persevere in iniquity.

“The warden,” continues Dr. Brigham, “has repeatedly assured me that Dr. S. gave the character of many of the criminals, especially the noted ones, as correctly as he himself could, who had long known them.”—*Biography of Spurzheim, by Nantum Capen*, p. 110.

Mr. William B. Fowle, in a paper read before the Boston Phrenological Society, gave a very interesting account of Dr. Spurzheim’s visit to the Monitorial School of Boston. I will extract a single case:—

“At this moment, a few of the larger pupils brought forward a miss about thirteen years old, who had, as they thought, a very small head, and respectfully requested Dr. S. to tell what her head was good for. He turned to me and said, ‘Imitation, oh, how full!’ I asked him how it would be likely to show itself? ‘In mimicry,’ said he, ‘as likely as in any way. Is she not a great mimic?’ I had never suspected her of any such disposition; and, turning to her companions, I asked them if they had ever seen her attempt to mimic any one? ‘Oh, sir,’ said they, ‘she is the greatest mimic you ever saw! She takes every body off.’ This was news to me. ‘You may rely upon it,’ said Dr. S., ‘she will be taking me and my foreign accent off before I leave the room.’

“About fifteen minutes afterwards, he jogged my elbow, and pointed behind him, where I saw this miss putting her hand upon the head of her companions, in the very peculiar manner of Dr. Spurzheim, and saying, in his foreign accent, ‘You, Miss, have the bump of so and so; and you, Miss, have the bump of so and so.’ He laughed heartily at the verification

of his prediction. He said she had Courage, much Self-Esteem, and little Caution, and must be guarded, or her Imitation would be inconvenient to her."—*Biography of Spurzheim, by Nahum Capen*, p. 120.

When George Bidder, the celebrated calculator, went to Edinburgh, Mr. Moir, surgeon, waited on Mr. Combe, accompanied by three boys, of nearly equal age, and said, "One of these is George Bidder; can you tell me which is he, by his head?" Mr. Combe examined the boys, and remarked that the first one could not be Bidder, as in him the organ of Number was deficient; that the second should have considerable powers of calculation; but that the third should be Bidder, as in him the organ was remarkably developed. Mr. Moir assured Mr. Combe that he was right. The first was his own son, to whom instruction seemed unable to impart any arithmetical knowledge; the second was selected as the most expert calculator in a school in Edinburgh. The other was Bidder himself.—*Combe's Lectures on Phrenology*, p. 245.

Mr. Combe, in company with George Salmond, Esq., Procurator-fiscal of Lanarkshire, Walter Moir, Esq., Sheriff-substitute of Lanarkshire, and Mr. D. McColl, Governor of Glasgow jail, visited the last-named establishment, in April, 1836. Mr. Salmond, in his account of this visit, says that the individuals examined were "taken at the moment, promiscuously, from numbers of other criminals," and yet, he remarks, Mr. Combe "instantly, and without hesitation, stated the character, not generally, but with specialities of feelings and propensities, surprisingly justified by what I knew of them."

Mr. Combe described one man as "a thief, reckless and dangerous, who, for instance, if under the influence of liquor, would not hesitate to murder or destroy all around him." He stood indicted with cruelly assaulting, and then robbing a poor laborer of all his earnings during the harvest. Another, he observed, had "a fine intellect, and was likely to have been guilty of swindling." This was a painter, indicted for fraud. A third

he pronounced "a cunning, daring, and decided thief." This man had for years headed a gang of house-breakers, in the most concealed and adroit manner. A fourth he described as "a depraved and most dangerous man." This man had long been a thief, and one of the most noted corpse-lifters. A fifth, Mr. Combe judged to be "a sly thief, who, with a meek and specious aspect, possessed daring even to cruelty." This man was by trade a thief, adroit and cunning, who had often attacked and escaped from the officers of justice. He had lately stolen, "in broad day-light, in the streets of Glasgow, a hand-kerchief from a gentleman's pocket, and ran off. Being promptly pursued, he, as a decoy, threw from him the napkin. Being, after a race, overtaken, he leaped into a dung-pit, whither the gentleman could not think of following him, but stood watching him till the police he sent for arrived. On this, the fellow, in the most fawning manner, craved sympathy; and, finding this did not move the gentleman's purpose, he suddenly sprang out, and, on being seized, made a desperate struggle, bit severely the gentleman's hand, and, by his force and violence, might soon have got off, had not the police arrived."—*Mackenzie's Documents*, p. 43.

Mr. Combe, on the 28th of October, 1835, visited the jail of Newcastle-on-Tyne, in company with several scientific gentlemen. His observations were strikingly accurate. (See *Phrenological Journal*, vol. ix., p. 524.)

The skeleton of the notorious villain, Jonathan Wild, is in the possession of Mr. Fowler, a surgeon of Windsor, England. Mr. Fowler, anxious to ascertain whether the craniological developments were indicative of Wild's peculiar character, sent the skull to Mr. Deville, of London, without giving the remotest hint, however, of the name or character of the individual whose "shoulders it fitted." Mr. Deville returned it to Mr. Fowler, with a certificate stating it to be the skull of one possessing a singular character; of one who, under disappointment, pecuniary difficulties, or intoxication, would be very likely to commit crime. He would be fond of children, but

not a kind parent, as his mandate must be obeyed. He would be the associate of a female, but liable to jealousy, being a doubter of the integrity of others towards himself. He would be liable to do injury to those offending him ; and, if opposed, murder might be the result. He would, without much hesitation, appropriate to his own use the property of others, and, in so doing, evince ingenuity and cunning. He would be conceited, self-willed, obstinate, and passionate. He would possess mechanical ability, and ready comprehension. He would, at times, manifest some religious feeling, might follow some sect, and at times hold forth on the subject, but with little sincerity, being more to screen his evil propensities. He would be a talker in society—a knowing and conceited one. He would have some notions of music ; and, having some command of words, would be likely to become the songster of the company. His organization would lead him to prefer being the hero of public-house parties.

The practical aid which phrenology affords in ascertaining the natural dispositions and talents of men, has induced many to practise head-examining as a business. Some of these “practical phrenologists,” as they style themselves, are little better than speculators on public curiosity. Others, however, have a superior moral aim, and are useful auxiliaries in promoting a knowledge of the science. There are many of this latter sort who, by great assiduity and extensive practice, have become skilful at inferring character from organization. Instances of their success are recorded almost daily in the newspapers. I here insert an account of one of their experimental examinations, in which the subject was the skull of a person whose name and history still dwell, doubtless, in the memory of the reader. The account is taken from the *American Phrenological Journal*, vol. i., p. 89.

“ Antonio Le Blanc, in May, 1833, at Morristown, New-Jersey, murdered Judge Sayre, his wife and servant. This wretched being, in his confessions, says that, in youth, his ‘delight and sole aim was mischief ;’ that he was ‘continually

engaged in broils,' was 'very passionate,' and 'would, on every convenient occasion, give an insult, but never take one.' Yet, if occasion required, he could control his temper, and cloak his selfishness for a time, being skilled in deceitful devices. Soon after entering the service of Judge Sayre, he formed his plan of murder and plunder, but delayed its execution, in the hope that Miss Sayre would come home, and that, by murdering her also, he could become possessed of her gold watch. As she did not come, however, he proceeded, at ten o'clock one night, to execute his direful purpose. He went to Mr. Sayre, pretended to be frightened, and told him that something was wrong in the stable. Mr. Sayre followed Le Blanc to the stable, and, as he entered, Le Blanc struck him on the head, and killed him. By a similar trick, he decoyed Mrs. Sayre to the stable, and there killed her also, after a violent struggle. He dug a hole in a heap of manure, put in the bodies, and covered them up; then crept up stairs to where the servant was sleeping, killed her also, and proceeded to plunder the house. It may be mentioned that, besides the mere love of plunder, revenge for what he deemed a slight on the part of Mr. Sayre, entered into the motives of his act, and also the desire of being enabled to marry a girl to whom he was attached. It throws additional light upon his character, too, to be informed that his murderous purpose was not matured without a struggle on the part of his moral nature, even though that struggle was very feeble. 'These murderous thoughts,' says he, 'often came into my mind. I then began to pray to God to prevent me from committing so great a sin. Every time I thought of it, I began to pray, but I found that God had left me. I had not confessed for ten years.'"

It was the skull of this man that Dr. A. C. Dayton, the Rev. Isaac N. Walter, and Mr. J. J. Harvey presented to Mr. O. S. Fowler and Mr. Brevoort for examination, who immediately wrote as follows:—

"A thief, who would murder for money; very adroit, cunning, evasive, deceptive, sly, mysterious, selfish; with intellect

enough to manage adroitly ; seductive, if not licentious ; comparatively destitute of moral principle, and yet, perhaps, made great pretensions to religion ; unsocial ; a friend to no one ; quarrelsome ; possessed of a violent temper, especially when he thought himself imposed upon ; and under the dominion of the animal and selfish passions. A snake in the grass ; would take vengeance in the dark. Careful, cautious, wary, haughty ; would resent an insult very quickly ; was hypocritical, and very superstitious."

Dr. A. C. Dayton, the Rev. Isaac N. Walter, and Mr. J. J. Harvey certify that they were present at the examination of the skull, and that the above statement was written out by Fowler and Brevoort, without "any possible means of information as to the history of the skull, and before any intimation was given as to the name, history, or character of the individual whose it had been."

Immediately after receiving the above opinion, Dr. Dayton took the skull to Mr. L. N. Fowler, whose office was in another part of New-York, and, without giving to him the slightest intimation on the subject, desired a written statement of the mental qualities indicated by its developments. The following is the description given :—

"The temperament of this man was bilious nervous. He had a strong constitution, with great energy ; warm, active passions, and violent feelings. The occipital is larger than the frontal region, giving the predominance of passion, and of the lower feelings, not having sufficient intellect and moral feelings to control the propensities. The largest organs in his head are *Secretiveness*, *Acquisitiveness*, *Destructiveness*, *Combativeness*, and *Self-Esteem*, which would have inclined him to cunning, duplicity, selfishness, and an unconquerable desire to accumulate, possess, destroy, domineer, and rule. His Secretiveness and Acquisitiveness are the largest that the writer ever saw. It is decidedly the worst head he ever saw. He would have been dictatorial, arbitrary, and regardless of public opinion. Approbativeness being moderate, and

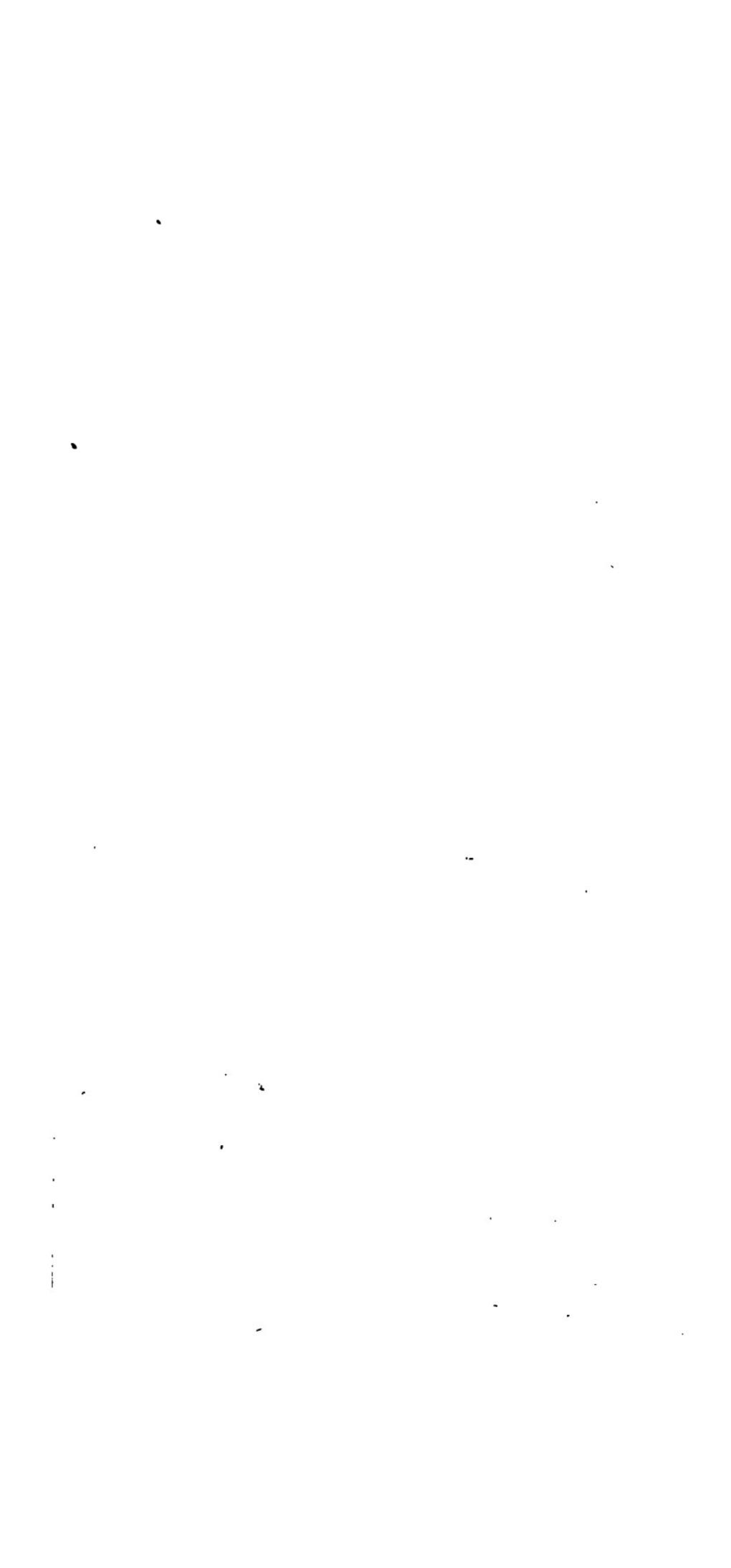
Self-Esteem large, he would have been regardless of others, and selfish and depraved in the highest degree. There would have been no crime too heinous for him to commit, when irritated or jealous. Benevolence, when compared with the passions, is moderate ; so that he would have had but little real humanity. His religious organs are active, especially Marvelousness and Veneration ; yet not sufficiently strong to have had a controlling influence on his mind. Having very large Secretiveness, with very strong passions, he would have been likely to make religion a cloak for his crimes. His attachments and social feelings are strong ; yet his selfish emotions, and particularly his love of gain, is much stronger ; so that he would readily sacrifice friends to selfish enjoyment. He must have been a great intriguer, and well calculated to plot and screen his intentions from observation. He was naturally suspicious, and always on the alert as to the movements of others. Having Imitation and Secretiveness marked, he would readily have accommodated himself to others, and could easily have passed for whom or what he chose. He had good mechanical talent and judgment. He was very observing, and had good practical talents ; yet he had not a strong mind. He was shrewd, and knew how to avail himself of circumstances ; yet he had more tact than talent."

The above descriptions of character, owing perhaps to the haste with which they were written, are somewhat amenable to criticism ; but, substantially, they are remarkable for their agreement, and for the accuracy with which they delineate the character of the wretched being whose skull afforded the only data.

I have now explained the true method of investigation, and shown that to it the phrenologists have strictly conformed. I have shown the true method of testing the reality of an alleged discovery, and the neglect of that method by our opponents. I have explained the principles by which the admissibility, nature and force of testimony are tested, and have shown that the testimony offered against us is inadmissible, being that of

men ignorant of the facts concerning which they testify. I have redeemed, too, the promise made in the preface to this work, by proving that there is in favor of our science evidence of the same kind as that on which men implicitly rely in their belief of any proposition whatever; to wit, the testimony of persons of acknowledged integrity and capacity, who have had ample means of investigation, who have faithfully employed those means, and who unite in testifying to the correctness of phrenological conclusions. I have shown, too, that the facts to which they testify are, *a priori*, highly probable, being in strict harmony with others, the truth of which is universally acknowledged. I have also drawn attention to this circumstance: that the testimony offered presents these strong characteristics of truth, namely, that it is given in opposition to the influence of education and prejudice, to the ordinary dictates of self-interest, and in the face of ridicule and reproach; that it is the testimony of men who expose their facts, methods of investigation, and sequences to public scrutiny, and furnish their opponents with the most ample means of refuting them, if refutation is possible; and who submit their conclusions to the most trying experiments. It is not too much to say that he, who, in the face of such evidence, and without the ability to produce indubitable facts incompatible with the doctrines of the new philosophy, opposes and ridicules those doctrines, or urges others to do so, manifests great intellectual obtuseness, or the most sturdy vigor of self-conceit and prejudice. His conduct being interpreted into language, clearly says: "Such is the vastness of my genius, such my intellectual acumen, that my mere uninformed opinion, my intuitive perception, merits more confidence from you, my hearers or readers, than all the laborious, long-continued investigation and scrutiny, which have been bestowed on this matter by the hundreds of scientific men who have made it their especial study." I need not say that conduct, which can be fairly translated into such language, is unwarrantable. Yet of such conduct are our opponents

habitually guilty. No wonder, then, if men who have proved phrenology, and found it to be a true exposition of the functions of the brain and the operations of the mind, feel indignant at such opposition. And yet, it seems to me, that indignation is hardly the feeling to be aroused by it. There is so much of ludicrousness in these manifestations of self-conceit, with its pompous strut, didactic tone, and oracular sayings, that they would be matters to make one's-self merry with, if the world were not induced thereby to neglect most important truths.



## A DEFENCE OF PHRENOLOGY.

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### PART II.

REVIEW OF "SELECT DISCOURSES ON THE FUNCTIONS OF THE NERVOUS SYSTEM, IN OPPOSITION TO PHRENOLOGY, MATERIALISM, AND ATHEISM ; TO WHICH IS PREFIXED A LECTURE ON THE DIVERSITIES OF THE HUMAN CHARACTER, ARISING FROM PHYSIOLOGICAL PECULIARITIES. BY JOHN AUGUSTINE SMITH, M. D., ETC., ETC."

JUDICIOUS, investigating, truth-loving men, are, day by day, giving in their adherence to the doctrines of phrenology. Teachers, superintendents of the insane, members of the learned professions, students of mental and moral philosophy, of political economy, and of history, acknowledge that it is a light to their path. It is supported by the leading medical journals of the world—The Medico-Chirurgical Review, The British and Foreign Medical Review, and The Lancet. In this country, it is advocated by The Eclectic Journal of Medicine, The Boston Medical and Surgical Journal, and The Western Journal of Medicine and Surgery. Within a few months, the leading scientific periodical of the new world, The American Journal of Science and Arts, has cast its name, character, and influence into the phrenological scale. In view of these facts, mature ought to have been the deliberation of Professor Smith, strong his reasons, before declaring phrenology to be "a freak of the imagination—a fanciful toy," (p. 142.)

Widely, indeed, do we differ in opinion from the professor. We look upon phrenology as among the first of human sciences

in interest and importance—as a science which not only furnishes us with the true physiology of the brain, but which embraces the entire ground of mental and moral philosophy, and forms the true basis of education, legislation, and jurisprudence—a science pregnant with more important influences than the revelations of Galileo, of Harvey, or Newton ; making known, as it does, the mental constitution of man, the instruments of thought, and secret springs of emotion ; enabling us, as it were, to throw our own and external nature into one mighty syllogism, and educe human duty, human rights, and human destiny.

We are fully aware that the foregoing language may seem the emanation of enthusiasm to those who are unacquainted with the true nature, scope, and utility of our science. We express it, however, with the deep conviction that it is the language of sober reality. Shall we not be permitted, then, to insist that phrenology be not condemned on *ex parte* evidence, and that it would be unjust to take for established the grave charge of our assailant, that “ whenever phrenologists appeal to cerebral organization, fancy is evoked to furnish the facts,” (p. 101.) We think we can prove that all the evidence he adduces to support this charge, is erroneous or insufficient. Nay, further, we hope to show conclusively that the professor’s objections are, in truth, “ freaks of the imagination, fanciful toys.” But whatever may be the result of the contest, we shall endeavor to conduct it with courtesy. Truth, left free to combat error, is ever too strong for its antagonist ; and phrenology, being true, needs not the aid of angry phrases or contemptuous epithets. Its opponents often merit them, indeed, but the phrenologist can afford to be generous and forgiving. Professor Smith may rest assured, therefore, that *we*, at any rate, shall neither attempt to enforce our statements nor fortify our arguments by the peculiar species of rhetoric which distinguishes “ that portion of the British metropolis where they speak the plainest English and sell the freshest fish.”

It is worthy of remark that the author of the “ Select Dis-

courses" scarcely refers to the labors of his predecessors; there is nothing said from which it could be inferred that phrenology has been attacked by Gordon, Roget, Stewart, Barclay, Rudolph, Hamilton, Prichard, Jeffrey, Magendie, Bostock, Bell, or Sewall. How is this? Are the writings of these gentlemen so erroneous and inconclusive that the professor is ashamed of them? Does he agree with us that they are so little creditable to their authors that, for their fame's sake, they had better be forgotten? How else can we account for his silence? Anti-phrenological writers generally, indeed, manifest very little respect for each other's labors. Each seems to regard as entirely successful his own attempt at refutation, while he agrees, with us, that the attempts of others are futile and fallacious. Thus Dr. Bostock, in his attack, (*Bostock's Physiology*,) says, "It must be acknowledged that the opponents of phrenology have been more characterized by the brilliancy, or, perhaps, *flippancy* of their wit, than by the *soundness* of their *arguments*." Yet, unfortunately for his discernment, he has produced no objections which will stand the test of enlightened scrutiny.

Dr. Prichard remarks, in one of his attacks, (*Cyclopedia of Practical Medicine*,) that nearly all that has been said of late against phrenology, was advanced many years since, in the most forcible manner, by the author of a critique in the Edinburgh Review. "Similar objections," he adds, "are still frequently repeated, though most persons *have become*, or *might have become*, aware of their *inconclusiveness*." Yet the objections of Dr. Prichard are equally inconclusive with those of his predecessors.

Dr. Sewall, too, in his attack, (*Examination of Phrenology*,) rebukes our opponents for the unphilosophical weapons employed against us. Unfortunately, however, for the reputation of his philosophy, he commits, among other blunders, the fatal one of attempting to generalize pathological facts into a physiological conclusion; but it is clear that, if the individual facts be pathological, the general fact must be pathological. To deny,

as he in effect does, that it is impossible, in healthy cases, to judge, with closely approximating accuracy, of the size of the brain from the size of the skull, because, in disease, the cranium sometimes differs greatly in thickness, is no more philosophical than it would be to deny that the liver ordinarily secretes bile, because, in disease, it sometimes secretes pus.

Nay, so true is the saying about the mote and the beam, that Dr. Reese, even, acknowledges that by "the ridicule and persecution of its votaries, phrenology *has alone or chiefly been opposed*," (*Humbugs of New-York*.) But then, as if fully determined that the future should not change the character of the opposition, he proceeds in a strain that, in coarseness, though not in wit, would have been creditable to Timon of Athens, to denounce phrenology as a "vile imposition on public credulity"—as "sublimated impiety, materialism, and fatalism;" and to denounce phrenologists as "skeptics or free-thinkers, deists or atheists, neologists or materialists." We suppose that no man of science, whatever be his opinion of phrenology, will give much weight to Dr. Reese's remarks in general, however clearly he may consider them to have demonstrated two of his propositions, namely, that "there are many fools who are wise in their own conceit," and that there are persons "whose organ of Self-Esteem reaches from head to heel."

Professor Smith, as we have said, does not refer to the writing of his coadjutors; he does, however, refer to two objections which have been frequently, nay, even violently urged against phrenology, by some who profess to be humble disciples of Christ, but who, nevertheless, arrogate to themselves the incomunicable unerringness of the Deity, and denounce, as opposers and contemners of the Creator, those who dissent from their dogmas and interpretations. What is the wisest and best of men but a fallible and erring creature? Whence, then, obtain they the right to denounce their fellow man for the reason that, in seeking for the truth, he departs from the beaten track? Unlimited freedom in religious, political,

and philosophical inquiry, is the most important, the most sacred right of man. But instead of respecting this right, men condemn, unheard, the master minds of every age, and almost every discovery which rises above ordinary mechanical appliances, be it the doctrine of the earth's revolution, the facts of geology, or the physiology of the brain. They forget that all truth is of God; that, if the earth revolves, it is by His appointment; that, in whatever way it were formed, it was by His might; that, whatever may be the functions of the brain, He is their author and finisher; that every discovery which is made, is, in truth, merely a new revelation of His power, His wisdom, and His will.

The two great objections charged upon phrenology by the class of men to which we refer, are, that it destroys moral responsibility, and involves the materiality of mind. It is interesting to see the manner in which Professor Smith treats these objections. "It has been alleged," says he, "that the phrenological speculations weaken our convictions of human responsibility, while they strengthen the cause of materialism. *Both charges appear to me to be groundless.* \* \* \* The phrenological hypothesis *involves nothing*, with regard to the constitution of man, which, in reference to that constitution, merely, *may not safely be granted.* \* \* \* The organs, in fact, hold *precisely the same relation to the mind which is conceded to the eye and ear,*" (p. 85.) And as to the other charge, he declares that phrenologists "are constrained, with *irresistible force*, to *oppose materialism.*" We would here remind the author of the wrong he has endeavored to do to phrenology by the association in which, in his title-page, he has so prominently placed it—"Select Discourses in Opposition to *Phrenology, Materialism, and Atheism.*" One of the most ungenerous means that can be resorted to, in order to bring a subject into odium, is to associate it with that which is odious.

But not only does Dr. Smith do justice upon these objectors, but upon himself. He acknowledges that for a long time, *he* considered "the notion of distinct organs in the brain" as irre-

concileable with the doctrine of human responsibility ; "further reflection," says he, "*has, however, convinced me of my error.*" From what we know of Dr. Smith, we can hardly err in stating that, before this "further reflection," phrenology had to suffer many a bitter taunt on account of his erroneous opinion, as it has still to suffer on account of the many erroneous opinions in relation to it which he yet retains. May we not hope that the fact of his having become convinced that he believed *one* erroneous charge against phrenology, will induce him to bestow still "further reflection" on the entire subject, renounce other errors, and make other retractions. Our hope, however, can be very faint, only, for there is much force in his assertion, that mistaken opinions, once imbibed, are not readily surrendered; and that, if a book has been written, the case is hopeless.

Having settled down into the conviction of the folly and falsity of phrenology, but being satisfied of the inconclusiveness of the attempts of others to refute it, Professor Smith has determined, seemingly, to save the world from its imminent danger of becoming irredeemably phrenological, by himself taking the field from which so many have retired discomfitted, feeling confident, evidently, that *he*, at any rate, is irresistible. And, in truth, if phrenology is ever to be refuted, this should be the occasion. If phrenologists survive this attack, they may breathe more freely, and anticipate other opposition without alarm. The author of the "Select Discourses" is a doctor of medicine, a member of the Royal College of Surgeons, one of the vice-presidents of the Lyceum of Natural History; in earlier life, he was president of the College of William and Mary, and held a professorship of mental and moral philosophy; he was for years a professor of anatomy, and for years he has been, and is now, professor of physiology to the College of Physicians and Surgeons for the University of the State of New-York, and is also the president of that institution. Besides the learning and reputation which these honorary and official titles indicate, it is to be remarked that he has, as he informs us, (p. 109,) the great natural advantages of a head so large, that he has

seen one individual, only, whose head is larger than his own, and that his "temperament is not only sanguine, but ardent," so that his "brain has all the benefit to be derived from a full supply of well-aerated blood." Then, again, the attack before us is no hasty production, struck off in a fierce and sudden heat, but it has been long meditated, carefully matured, often reconsidered; every word must have been measured, every sentence thrice scrutinized. For many years has the author annually presented these discourses to the medical college of which he is president, making, from time to time, the improvements of which he deemed them susceptible. After some years, he considered them sufficiently mature to be delivered before the members of the learned Society of Natural History, of which he is now one of the vice-presidents, by whom they were "received with favor;" and now, after more than three years' still further deliberation and preparation, he has presented them to the "lovers of science" as "SELECT Discourses:"—that is, according to Dr. Johnson, "*nicely chosen, choice discourses*"—discourses "*culled out* on account of *THEIR superior excellence*." Are we not fully justified in asserting that, if we have the right to expect perfection anywhere, it is here?—that if phrenology is ever to be refuted, it will be on this occasion? Let us proceed, with all the calmness and self-possession which circumstances will permit, to inquire whether phrenology must indeed wrap its mantle around it, and sink forever into oblivion.

The first principle of phrenology is, that the brain is the organ of the mind. In common with most writers of the present day, Professor Smith subscribes to this doctrine. "Some action of the brain, in whole or *part*," he says, "is doubtless connected with *every state of the mind*," (p. 86,) and this he states was "always known." His latter position is erroneous, if he means by it that the fact has been undisputed. We could produce many authorities to the contrary; one, however, shall suffice: Mr. Jeffrey, in an attack upon phrenology, contained in the 88th number of the Edinburgh Review, says

"there is *not the smallest reason* for supposing that the mind ever operates through the agency of *material organs*, except in its perception of natural objects ; or, in spontaneous movements of the body which it inhabits." Here is a direct denial, by a brother anti-phrenologist, of the proposition laid down by Professor Smith, adding another to the many disagreements among our antagonists themselves. Professor Smith, however, is undoubtedly right. Fact, reason, authority, and almost universal assent, combine to prove or corroborate this proposition. We shall now proceed to those propositions that are considered peculiarly phrenological, and which the professor controverts.

On page 82 he commences his attack by manifesting his entire ignorance of the history of phrenology. The organs of the faculties were discovered successively, by a series of observations of the most minute and comprehensive character, extending through many years ; and the "completeness of arrangement," the "admirable disposition" of the organs, which Professor Smith affects so much to laud, was not *invented* but *discovered* by Gall, after the establishment of many of the organs. He was then struck with the fact that the instruments of those faculties immediately related to each other are grouped together in the same part of the brain. "Such a display of ingenuity and science would be delightful," says Professor Smith, "could we only feel assured of its correctness." The phrenologist has, therefore, the professor's justification for the delight he feels when contemplating, not indeed a "display of ingenuity," but the order and harmony of nature. Dr. Smith, however, treats the matter as though it were indubitable that Gall sketched out the organs on the skull, just as an architect would trace "the plan of an embryo town upon the fair surface of an alluvial plain!"

The following three propositions constitute the professor's summary of the views of the phrenologists, and "embrace, as far as he can understand it, the whole doctrine of phrenology:"

"First—That *minute* and distinct parts of the brain, termed

'organs,' are exclusively appropriated to particular *affections* and *processes* of the mind."

"Secondly—That these affections and processes will be *intense* and vigorous, *cæteris paribus*, as the size, technically, as the development of these organs."

"Thirdly—That the organs in question are situated upon the *surface* of the brain, and to that surface, and consequently to them, the skull is secondarily moulded, and with great accuracy. Hence, cerebral *elevations* or *depressions* will cause corresponding *inequalities* in the cranium. But these inequalities, being *osseous*, are *durable*, and being superficial, are at all times visible; therefore they enable the professor of phrenology to determine the talents and character of *any* individual, living or dead, whose head may be subjected to his examination."

Dr. Smith would have saved his readers from much confusion had he transcribed a statement of the fundamental principles of phrenology from some standard work on the subject. This was due to phrenology and to himself. To phrenology, that it might not be misrepresented; to himself, that he might be free from the suspicion of intentional misrepresentation.

In the FIRST PROPOSITION, we object to the term *minute*. It is inappropriate, it is not employed by phrenologists, and it is used by the professor for the purpose of throwing discredit on the proposition by the very mode of stating it. He wishes it to be inferred that it is very absurd to suppose that "*minute*" portions of the brain can perform the functions which phrenologists ascribe to them. This is evident from his observations on the organ of Weight, page 124, where he ridicules the idea as "beyond the pale of a sane imagination," that such a "diminutive mass of cerebral matter" can perform the functions ascribed to "this active little organ." The objection is ill-taken. Will Dr. Smith be kind enough to inform us out of how much cerebral matter he deems it possible for the Creator to form an organ having such powers as we say the organ of Weight possesses? Dr. Smith is the vice-president of a Society of Natural History; perhaps he is acquainted with the

brown ant, (*formica brunnea*,) an insect one-eighth of an inch long, which has social instincts, reproduces its kind, tends its young, removes them nearer to or farther from the surface of the earth, according to the external temperature. Acting in unison with others, it chooses a site for its habitation, forms a plan, prepares materials, and then builds numerous apartments in concentric stories, with long galleries for general communication ; the arched ceilings, covering the more spacious places, being supported by columns or regular buttresses. The doctor will acknowledge that all these various and dissimilar acts are performed through the agency of the nervous system ; now this "diminutive" organ of Weight is at least *one thousand times* more bulky than *the whole nervous system* of one of these ants. If this "active little organ" puzzles the doctor, how much more should the nervous system of the brown ant pass his comprehension and belief. And what will he say to the "minute" nervous systems of those "active little" infusoria which the microscope makes manifest ? Surely the doctor's stock of sarcasm must have got disarranged ; he can hardly have intended this mocking paragraph to occupy its present position. In addition to this, we must remark that phrenologists have neither, in reference to the organ of Weight nor to any other organ, exercised "imagination." What they say is the result of observation ; and it is sufficient for them that the fact is as they state it, and not otherwise. They are willing that Professor Smith should monopolize the employment of determining whether the Creator has used sufficient nervous matter for his purpose.

Again, Professor Smith is in error when he represents phrenologists as maintaining that there are distinct organs for the particular "*affections*" and "*processes*" of the mind. What they do say is, that there is a peculiar organ for each *faculty* of the mind. The distinction is important.

In the **SECOND PROPOSITION**, the words "affections" and "processes" are again improperly employed, and also the word "*intense*." Intensity and power are two distinct qualities.

Power is a permanent quality, and exists equally whether an organ be active or quiescent ; as Samson was still the strong, whether reposing in the arms of Delilah, or carrying off the gates of Gaza. But intensity, as such, is a quality depending for its existence on the actual activity of an organ ; and when an organ is acting, its intensity of action depends not upon size alone, but also upon temperament and the strength of the exciting cause. The relation between size and power is a question too important to be confused by the introduction of extraneous considerations.

In the THIRD PROPOSITION, important misrepresentations are made. Dr. Smith there lays down, as the doctrine of phrenologists, that the organs are situated upon the “*surface of the brain*,” meaning the surface, *merely*. This is evident by his frequent application of the term “superficial” to the organs, and by his assertion (p. 95) that on the internal portion of the brain the phrenologists lay no stress whatever. Now Mr. Combe, so far from subscribing to this “superficial” doctrine, says, (*System of Phrenology*, p. 82, Boston, 1835,) “The length of an organ is ascertained by its distance from the *medulla oblongata* to the peripheral surface.” This Dr. Smith knew ; for, strange as it may appear, he attacks the very doctrine embodied in the above extract. Surely the professor is a captious and somewhat inconsistent gentleman—he first asserts that phrenologists consider the organs to be *merely superficial* ; and having, as he thinks, ousted them from that position, he turns round and shows that they hold them to be *not merely superficial*, but to extend from the surface to the *medulla oblongata* ; then he commences an equally determined attack for the purpose of driving them from that position also ! Has the reader witnessed Shakespeare’s Comedy of Katharine and Petruchio ? If he has, the following scene is already, perhaps, depicted before him :

*Petruchio.* “How bright and goodly shines the moon !”

*Katharine.* “The moon ! the sun ; it is not moonlight now.”

*Petruchio.* “I say it is the moon that shines so bright.”

*Katharine.* "I know it is the sun that shines so bright."

*Petruchio.* "Now, by my mother's son, and that 's myself,  
It shall be moon, or stars, or what I list,  
Evermore crossed and crossed, nothing but crossed;  
I say it is the moon."

*Katharine.* "I know it is the moon."

*Petruchio.* "Nay, then, you lie; it is the blessed sun."

*Katharine.* "Then God be blessed, it is the blessed sun,  
But sun it is not, when you say it is not,  
And the moon changes even as your mind;  
What you will have it named, even that it is."

That Professor Smith is disposed, here and elsewhere, to act the part of Petruchio to the phrenologists, is clear enough; that the phrenologists will submit to be to him a Katharine is not quite so evident.

The professor represents the doctrine of the phrenologists correctly when he says they maintain that to the surface of the brain the skull is secondarily moulded. This fact is, indeed, indisputable; and he does not attempt to dispute it. But when he talks of *depressions*, and *elevations*, and *minute* superficial inequalities, he conveys to the reader false impressions of phrenology, by inducing him to suppose that these are all of which phrenology treats. That the extent of his error may be clearly seen, we refer to page 122, in which he maintains, by implication, that the differences on which phrenologists rely are really so very small as to be almost inappreciable. "Let me recall to your recollection," says he, "what you must all have observed. In bald persons the *general contour* of the head is ordinarily *so uniform* that no eye or finger can detect any *sudden* or considerable inequality. This *evenness of outline* is so perfect that the cranium admits of a polish like marble, and skull-caps have heretofore been converted into drinking-cups. Yet under this almost *unvarying surface* lie the organs of the phrenologist, inducing, as he contends, *by their greater or less projection*, all the infinite and striking differences observable among men."

Dr. Smith has evidently picked up the erroneous notion about "bumps" and cavities, against which, from Gall downwards, phrenologists have guarded their readers. For *minute* superficial inequalities, they do not look. They maintain that size, *cæteris paribus*, is the measure of power, and that size can be ascertained where no sudden inequalities, unevenness or projections exist, even under an "almost unvarying surface." Let the reader follow the advice of the doctor, and call to mind the heads, either bald or otherwise, that he has noticed; or, if he has not attended to the subject, let him commence to observe, and he will soon be convinced that even and almost unvarying surfaces are compatible with great differences of size and form. He will find the sloping forehead in connection with a predominance of the perceptive faculties; the forehead fully developed in its upper region, in unison with strong reflective faculties; the contracted and low coronal region, in connection with weak moral forces; and the broad, well-arched coronal region, corresponding with high moral endowments; the small basilar and posterior regions in unison with moderate or deficient strength of the propensities; and the wide basilar region and large posterior lobe existing with strong animal feelings. If he extend the range of his observations, and bring into review casts as well as living heads, he will find differences still more striking, ranging from the lower idiots upwards; from the head of eleven inches in circumference to that of twenty-three or four, and corresponding differences in the size and development of the several regions. Of course there is nothing *very* minute in differences of twelve inches. But what is more to the purpose, he will, in the heads of the *same general size*, find differences in width or height, at particular regions, amounting to an inch or more. Surely *an inch* of cerebral matter is not *very* minute. And all this may be observed without the skull being studded with bumps or indented with cavities, but under an even surface. Sometimes, indeed, a single organ is very much or very little developed, in comparison with the surrounding organs; then there is an ele-

vation or depression sufficiently obvious. Such instances form the extreme cases, the *experimenta crucis*, by which phrenology is severely tested, only to furnish demonstration after demonstration of its truth. Considering the above error of Professor Smith, we wonder not at his want of success in recognizing the correspondence of cerebral organization with mental manifestation. Nay, allowing for the extent to which it must have vitiated his conclusions, his testimony to the truth of phrenology is very strong. "That my observations," says he, "have occasionally corresponded with the phrenological theory, is very true; but a want of conformity, if not more common, has been so frequent as to render me an absolute disbeliever," (p. 110.) It seems that he is doubtful whether his inquiries have shown the instances of conformity or of non-conformity to be most common; so that about *one-half* of all his observations have been confirmatory of the phrenological doctrines—a proportion far greater than, under the circumstances, we should have considered possible.

The professor states, as the doctrine of the phrenologists, that the skull, "*being osseous*, is durable," and in this statement and reason he seems to acquiesce. The precise fact is, however, that the skull, like every other part of the body, is continually undergoing decay and renovation; and, being secondary, subservient, or protective, it changes to accommodate itself to that which is primary. It is originally moulded on the brain, and afterwards expands as it expands, and shrinks as it shrinks, so as always to keep the inner table in apposition with the cerebral membranes. When the skull remains permanent, therefore, in size and form, it is not, as the professor intimates, on account of its "*osseous*" nature, but from the permanency of the organs which it protects. In extreme old age, indeed, changes occasionally take place in the skull, irrespective, to some extent, of alterations in the brain. These are generally irregular depositions of bony matter along the inner and sometimes the outer surface, appearing as though nature had laid on new materials with a dimmed eye and fal-

tering hand. But phrenologists expressly state that they do not find their conclusions on the organization as it exists in the decrepitude of age.

One of the assertions most injurious to phrenology, of any which Professor Smith has advanced, is contained in the third proposition. He there makes the phrenologist say that, by the inequalities of the skull, he "can determine the *talents* and *character* of *any* individual, living or dead, whose head may be subjected to his examination." On page 123, he advances still stronger pretensions for the phrenologist. "Upon *simply observing*," says he, "the exterior of a skull *accidentally* taken from a museum or a charnel-house, the phrenologists *will undertake* to delineate as *minutely* and as *positively* the peculiarities of him to whom that relic of mortality formerly belonged, as if the *easel* of Raphael had furnished his portrait, or the *pen of Tacitus* had painted the man!" Both these extracts are grossly disfigured by exaggeration and misrepresentation. No phrenologist has pretended to such power; and Professor Smith cannot point to an assumption as broad as the foregoing, in the writings of any phrenologist whatever. The professor either knew that no such pretensions were ever made, or he did not; we leave him to draw the conclusion resulting from either horn of the dilemma.

But let us see what the phrenological doctrine is upon this subject, that such implied charges as the foregoing may be neutralized, and the inquirer be informed of the reasonableness of all for which the phrenologists contend. To present the matter clearly, we must keep distinct two questions which may readily be confounded. The one is, Can the distinct organs of the brain be ascertained by cerebral developments? The other is, To what extent, from such developments, can the character of any given individual be determined? The one question relates, it will be seen, to the truth of phrenology; the other to its application. The former the phrenologist answers, unqualifiedly, in the affirmative; to the latter, his answer is qualified and guarded. He shows, in relation to the

first inquiry, that, in extreme cases, differences of mental manifestations are very striking; and that, if all the elements of uncertainty were combined to vitiate his conclusion, their influence would be slight, when compared with that of the difference in size between a very large organ and a very small one: and, in proving a proposition, he is not only at liberty to produce, but is bound to produce, the strongest evidence. Contrast Dr. Chalmers and Joseph Hume, M. P., in the region of Ideality; the general size of the head is the same in both, yet Chalmers' head is, in this particular region, *an inch and a quarter* wider than Hume's. Contrast Haydn and Ormerod in the region of Tune; Audubon and Milne in that of Color; Eustache and Gottfried in that of Benevolence; Haggart and Gibson in that of Firmness; Voltaire and Canova in that of Language—and such differences will be seen as the phrenologist relies on to establish his doctrine, while he maintains that all heads, to a greater or less extent, confirm and corroborate those doctrines, and that not one incompatible fact can be adduced. That the true functions of the brain, and the organs of those functions, can be, and that many of them have been fully ascertained, we consider to be as conclusively proved as any proposition of natural philosophy.

In reply to the second question, being that to which Professor Smith's assertions more particularly apply, we answer, that phrenologists never have claimed the power of determining, from organization alone, with minuteness and invariable correctness, "the character of *any* individual, living or dead." What they do say, is to the following effect:

The word *character* does not represent a homogenous idea, but may be used in at least three significations—

1. To represent the notions of a man's qualities which exist in the mind of another. This may be called his *ascribed* character.

2. To represent a man's constitutional dispositions, his moral and intellectual capacity. This may be called his *natural* character.

3. To represent the general mental condition of a man, and his usual mode of mental manifestation, within a given period, and under given circumstances. This may be called his *actual character*.

It is sufficiently obvious that, of ascribed character, we can have no uniform organic indications ; for, as no two minds are precisely alike, have precisely the same means of judging, or bear precisely the same relation to the mind observed, no two would form precisely the same estimate of an individual's mental qualities. This diversity of opinion does not prove, however, that ascribed character cannot be relied on for correctness in any case, but merely that we are to take into consideration not only the observed, but the observers and the means of observation. There is, indeed, general unanimity of opinion as to prominent mental characteristics. Thus, though some formed a more just conception of Paganini's talents than others, all agreed in calling him an extraordinary musician. The same is true of Raphael in painting, of Mathews in mimicry, of Colburn in arithmetic. All agree that Wurmser was daring; Hare, avaricious and blood-thirsty; Eustache, benevolent. But about less strikingly marked mental qualities, there is less agreement. As to these, however, impartial and discriminating men, of good moral endowments, can form sufficiently correct opinions. The opinions of such men, with adequate opportunities of observation, on all mental qualities, and the general agreement of these and others, on the more strikingly marked qualities, may be relied upon with safety. They form the standard of comparison to which the phrenologist appeals, as that by which the correctness of his own decisions must be determined.

Of the *natural character* of man, the phrenologist can judge, in almost every healthy subject, of proper age, with closely approximating accuracy, from organization alone. There are, indeed, a few elements of uncertainty, which the phrenologists themselves were *the first* to point out, and which are fully stated in their works ; but it could rarely happen that an able

phrenologist would commit a considerable error from the operation of any of these obstacles, or even from all combined. But then the *actual character* may differ widely in two persons whose natural character is about the same.

It must ever be remembered that the brain is a part of the living, organized body; and that, like all other parts, it is nourished, grows, decays, and perishes; like them, too, it may be rendered feeble and irregular in its action, by disease, or insufficient nourishment or exercise,—may be stimulated to unwonted energy, or, by judicious exercise, be increased in aptitude, vigor, and certainty of action. What is true of the brain, as a whole, is true of its several parts. Each organ is endowed with a certain function, the gratification of which it craves with an importunity proportionate to its size. But it may be adequately, too feebly, or too highly stimulated, and the results will vary accordingly. If an organ be kept, as far as possible, in a state of quiescence, it loses in strength, ease, and efficiency of action. Hence, on two organs, of like size and constitutional activity, being subjected to equally powerful exciting causes, the one, owing to difference of previous training, might greatly exceed the other in ease, energy, and precision of action. As a guide to these differences of training, the phrenologist inquires into the education of the individual examined. Natural character, (as far as he can ascertain it from organization,) education and external influences being given, he can solve the problem of actual character with closely approximating accuracy. The non-phrenologist cannot commence the solution. Nay, further: the phrenologist can tell the *remarkable* traits of actual character, when such exist, with considerable precision, from the organization *alone*; for, if an organ be very deficient in size, no amount of the most judicious training can make it display great energy; and, when he observes such organ, he can say, with perfect confidence, that, in all actions for which strength of its function is required, the individual in whose organization its development is deficient will manifest feebleness or imbecility. If an organ,

on the contrary, greatly predominates in size, it hungers, as it were, for stimulus, and responds to it, when presented, with such vigorous, and, in general, pleasurable energy, that its tendency is to overpower the appeals of the other organs, or to reduce them to subservient activity ; and, though judicious training may greatly modify this tendency, it will still exert a powerful influence over the character—and this the phrenologist can state without the slightest fear of mistake. Starting from these extremes, he proceeds, with diminishing certainty, in judging from organization alone, till he comes to men in whom the organs of the sentiments and propensities are equally poised. Here he finds the individuals, who, placed amid elevating and refining influences, the propensities having lawful means of gratification, sustain a fair reputation ; but who, placed amid obnoxious moral influences, may become guilty of every crime. There are men who would be almost utterly corrupt in heaven ; others who would in hell retain their allegiance to their high moral destiny, and, despite temptation and mockery, remain, like Abdiel amid the rebel angels,

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“ Unmoved,  
Unshaken, unseduced, unterrified.”

But those of whom we now speak, are removed from these extremes. They often surprise, not only others, but themselves, by the rapidity and frequency of their changes from evil to good, and from good to evil. The actual character undergoes marked revolutions ; the natural character remains the same. The distinctive trait of persons thus organized is their *liability to be strongly influenced by external circumstances and education* ; and this characteristic the phrenologist can state from the organization alone. He cannot tell, indeed, whether an individual thus organized should be ranked, for the time being, among the virtuous or the vicious ; but he can tell that no amount of moral training will render him as trustworthy, excellent, and amiable, as if the region of the moral sentiments had been one-third greater, or that of the propensities one-third less.

Such are the power and knowledge claimed by the phrenologist. How different from these claims are the wholesale, indiscriminate, and unlimited pretensions, which Professor Smith makes him arrogant. We have treated this subject somewhat at length, because we fear that the error of the professor is shared by many men of literary and scientific reputation and influence, who, strange to say, continue to pick up their notions of our science from any source rather than the writings of phrenologists.

Having now stripped the propositions laid down by Professor Smith, as the embodiment of phrenology, of irrelevant matter—corrected his errors, and exposed his misrepresentations—we will re-state them in such form as to represent correctly phrenological doctrines :

1. The mind is endowed with a plurality of innate faculties.
2. Each of these faculties manifests itself through the medium of a particular organ.
3. The organs of the mental faculties have their seat in the brain—the brain being a congeries of these organs.
4. The power of manifesting each faculty bears a constant and uniform relation, other things being equal, to the size of the organ of such faculty.
5. The outer surface of the skull and head corresponds so nearly with the form of the brain, that the seat and relative size of the several cerebral organs can be ascertained from an examination of such outer surface.

On comparing these propositions with those laid down by Professor Smith, it will be seen that they differ very materially. The argument is, therefore, “virtually concluded,” for his attack is made not upon the science in which we believe, but on a so-called phrenology of his own invention. We will proceed, however, and, in the first place, examine two objections which the professor brings forward against the logical correctness of phrenologists.

On page 94, he commences his attack on the doctrine of “distinct organs, by demanding the evidence on which it is

based. We confidently refer him to nature, to collections of casts, busts, and drawings, and to the writings of phrenologists. But this doctrine, he says, "is an inference, and has to be adduced, (?) so far as it can be adduced (?) at all, from the proposition next in order,"—the proposition here referred to being that Size, *cæteris paribus*, is the measure of power. "Until, consequently, that proposition comes regularly before us, no proof," he says, "can be offered, and of course no replication made. Were we, therefore," he continues, "to insist upon our *logical rights*, there would be *no controversy*."

It is not true that the doctrine of distinct organs is a mere inference from the doctrine that size is the measure of power. It rests upon observation, and can even be demonstrated by attention to *form* alone. But this whole objection arises from confounding a systematic presentation of certain conclusions with the mode of arriving at those conclusions. It is erected on the false presumption that phrenologists laid down one proposition, on that grounded another, and on that a third—so proceeding to the end. But we maintain that our fundamental principles are, on the contrary, generalizations of individual facts; therefore, to the consideration of these the professor must of necessity resort. But, independently of this, the circumstance of one proposition being laid down before another, by no means proves that the former must be demonstrated without reference to that other; for different propositions may be dependent on the same facts, and may be of equal importance, though one must of necessity be first in order. And, again, the objection shows ignorance or forgetfulness of the general mode of arranging systematic works. In investigation, we ascend from particulars to that which is general; in systematizing, the order is reversed, the concluding generalization, the crowning fact, being often the first proposition laid down—thus preceding all the subordinate propositions and particular cases, on the truth of which its correctness depends. It is evident, therefore, that, in whatever light we view the objection of Professor Smith, it is futile and unsound. He

cannot, under this illogical cry about "logical rights," escape the necessity of investigation. Nor can he be allowed, what he seems to claim, the reputation of generosity, for neglecting to stop his argument at this fancy-wrought barrier of his own erection.

On page 98, the professor charges phrenologists with "*assuming* facts to be true, *without an attempt to prove them*," and with making "reasoning, premises, and inferences to change places as occasion may require." To prove this, he narrates a dispute which he had with somebody, from which, as we are informed, and as is usual in such cases, the narrator came off triumphantly. We leave him full possession of this triumph, and proceed to notice the following other confirmation of his charge: "A patient," says he, "in a fit of sickness, forgot the use of language. Now, says the phrenologist, the case is plain; the man's organ of Language was disordered. Here, of course, we have an assertion deduced from the truth of phrenology, the *hypothesis being taken for granted*, and then made to do the duty of *a premise*." "But," continues the professor, "when a reversal becomes convenient, we are gravely assured that an inability to employ words, through some malady, proves the doctrine of distinct organs. In this way, what was before an inference, is now converted into an assumption; and, in lieu of being the offspring, is made to stand *in loco parentis*."

This is very plausible, but also very fallacious and erroneous. It is not true that phrenologists "assume" their facts; it is not true that they do not attempt to prove whatever they advance; it is not true that the doctrine of distinct organs is a hypothesis; it is not true that they take this doctrine for granted. It is true, however, that the professor founds an argument against phrenology on the *assumption* that phrenologists *assume* their facts; that he *takes for granted* that the phrenologists *have taken for granted* the truth of phrenology. So readily does he fall into the errors which he is charging upon others! Now, if the professor will *prove* that the facts of phrenology are assumptions, and that its doctrines are hypotheses, then, clearly, the controversy will be at an end, and to

continue the argument would be to batter the air after prostrating the fortress. The truth is, that the phrenologists never applied the above explanation to forgetfulness of language, until *after they had established the existence of an organ of Language*. And, having established the existence of such an organ, the above inference is plainly deduced, not from the premise pointed out by the professor, but from a universal law of pathology, which his hostility even to phrenology will hardly induce him to controvert, namely : that the disordered manifestation of a faculty is always indicative of a functional or organic derangement of the organ of that faculty. This is the point in controversy : Is there a peculiar portion of the brain which constitutes the organ of Language ? We say that there is ; the professor says there is not, but offers no proof beyond the above logical quibble. Until he disproves our doctrine, his objection is a mere play of words. As to the "convenient reversal," of which he speaks, it is a fiction of his own invention. The phrenologist has, in every case, proved the seats of the various organs, by physiological observations ; pathological facts have been brought in merely as corroborative or cumulative proof ; as such, we deem them to possess great weight and interest. They show, beyond dispute, that one faculty of the mind may be singly and solely deranged—a phenomenon which the phrenological doctrine clearly explains, but which the anti-phrenological notion renders absolutely mysterious and inexplicable. Nay, still farther ; pathological cases often confirm, in the most striking manner, the correctness of the phrenologist as to the seat of the various organs. Let us take one instance, bearing directly on the question in hand. Sir Robert Liston was a gentleman of great talents ; he was once minister-plenipotentiary to this country, and, at another time, to the Court of Russia ; he spoke ten languages, knew four others, and was remarkable for amiability and courtesy, until seven years before his death, when his mental manifestations commenced to undergo a marked change. He saw apparitions ; long trains of Greeks, Turks, and others, each in appropriate

costume, would pass before him. At first he was amused, being aware of their unreal nature ; but, finally, one vision became so terribly real, that he never afterwards spoke of these visitations. He saw, in the room, his wife, who had been dead some years, so life-like in appearance that he spoke to her ; she walked towards the window, he followed, and it was not till his head and hand crashed against the glass that he became aware of the illusion. Again, from being one of the most amiable and courteous, he became one of the most violent of men ; and, from being an admirable linguist, he became unable to use words. At his death, Dr. Abercrombie and Mr. Craig examined the brain, Mr. Combe being present. Over the *organ of Wonder*, the appearance of the dura-mater and skull indicated that *chronic inflammation* had existed. In the posterior lobe, where *Combativeness* is situated, *an abscess was found*, an inch in length and half an inch in breadth. *An abscess* was also discovered in the line of the fibres of the *organ of Language*. (*Combe's Lectures on Phrenology*, pp. 118, 214.—*Edinburgh Phrenological Journal*, October, 1836. *American Journal of Science and Arts*, July, 1840.) Will Professor Smith be kind enough to let us know his opinion of this and the numerous analogous cases to be found in the phrenological writings ?

After much more erroneous assertion and fallacious reasoning—the reader's progress through which is aptly characterized by Professor Smith himself as a “groping” in a “region of gloom,” at “every step uncomfortably conscious of the obscurity by which we are surrounded”—we arrive at a point in the controversy at which the author shows that he has had, during one interval at least, a just idea of the mode in which the phrenologists should be met, and that he himself is convinced of the inconclusiveness of all on which he has previously relied. As if cheered by the genial rays of truth which had thus fitfully visited him, he exclaims: “The region of gloom is past, the road before us is plain, the points to be reached obvious, and essentially dependent on the testimony

of our senses ; for *projections* of the brain are visible, tangible, measurable. The prominent traits of character are also readily and certainly discernible. *How far, consequently, the latter corresponds with the former, is a fact capable of the most easy and satisfactory proof;* or that failing, phrenology may be safely and confidently pronounced a mere phantom of the imagination," (p. 107.) For "projections," substitute "developments," and this quotation will correctly express the test to which we wish our science to be subjected. And it recognizes, to the fullest extent, the correctness of the phrenological mode of investigation. "Which is the true alternative," adds the professor, "it is now our business to inquire." Gladly will we abide by whatever alternative may result from a faithful inquiry. Let us, therefore, pass in review all the facts bearing on the subject, presented by the professor, from the commencement of the attack, that we may be enabled to decide their force understandingly.

Fact 1, (p. 81.) "When perplexed by some puzzling *problem*, we experience uneasiness in the head, particularly, as I think, in its *anterior part*."

The consideration of a "problem," as such, is solely a work of the *intellect*, the seat of the intellect being, according to our science, the "*anterior*" lobe. This fact is corroborative of phrenology.

Fact 2, (p. 82.) "A young man lost a large portion of the *frontal* lobe by an accident. The wound healed, but the bone itself was not regenerated, so that a distinct osseous edge remained. In after-life, when this person attempted close *study*, internal soreness and external inflammation took place, and compelled him to desist."

"*Study*" is an operation of the intellect, the seat of the intellectual organs being the "*frontal*" lobe. This fact, also, is directly corroborative of phrenology.

Fact 3, (p. 93.) "The brain, its anterior part being in advance, acquires its full size at a very early period of life. Au-

*themselves differ as to the exact date, which is probably not uniform, though not later than the seventh year."*

Phrenologists maintain, as the result of numerous observations, that the brain does not attain its full size before the age of manhood. The phrenological "authors," therefore, are not of the number to whom Professor Smith refers, yet he attempts not to give a reason for this exclusion. Surely he was bound to tell us *why* he considers the phrenological proposition false, and the non-phrenological one true. He has had numerous opportunities of deciding between them by actual observation of the brain itself. The subjects, of all ages, yearly presented in the dissecting-room of the College of Physicians and Surgeons, have furnished him with ample means of weighing and measuring the brain, and of showing, if possible, most conclusively, that the phrenologists are in the wrong. But he has chosen, on this, and other occasions, with something, it seems to us, of credulity, to depend implicitly on the sayings of "authors," when nature could so readily have been appealed to. It is evident, from this and other parts of the "Select Discourses," that Meckel's Anatomy is the source of Professor Smith's anatomical opinions. Let us turn, therefore, to Meckel. In vol. ii., p. 705, § 1,801, (Paris, 1825,) we find the following passage : "Jusqu'à l'époque de l'entier développement, l'en-céphale continue d'être plus gros, en proportion du corps, qu'il ne l'est dans la suite ; car, entre *six et sept ans* suivant Wenzel, et même dès *la troisième année*, selon Scœmerring, il a déjà acquis le volume et la pesanteur qu'il doit conserver pendant tout le reste de la vie." That is, at between *six and seven years* of age, according to Wenzel, and at *three* years of age, according to Scœmerring, the brain acquires its full size and weight. Thus it is, then, the reader of the "Select Discourses" may quote Professor Smith as his authority for the assertion that the brain attains its full size at *seven years of age*. We turn to Smith, and we find that he relies on Meckel; we turn to Meckel, and we ascertain that he speaks on the

authority of Wenzel and Scemmerring, who differ enough to have put others on their guard, and show to them the necessity of further observation. We turn to Wenzel and Scemmerring, and then learn the meagerness, the utter inadequacy of their inductions of facts. Scemmerring, for instance, weighed the brain of a child and the brain of an adult; found them of about equal weight, and forthwith concluded that the brain attains its full weight and size at two or three years of age! But, inasmuch as brains differ greatly in size and weight, there being idiots of adult age whose brains weigh no more than *one and a half pounds*, and there being men, such as Dupuytren and Cuvier, whose brains weigh *four and a half pounds*, or upwards, it is evident that even a child's brain, of large size, might weigh as much as a small adult brain, and yet the proposition of the phrenologist be true, namely, that the brain increases in size till the age of mature manhood. Just suppose, if you can, reader, the head of Mr. Webster, on the head of an urchin of three years old! "But," says Professor Smith, "the increase in the bulk of the head is due to the thickening of the skull, and not to the growth of its contents." We have examined many skulls in reference to this point, and can state, as the result of such observations, that the average thickness of the skull of adults, in the prime of life, is but about *one-fifth of an inch*. We are sure that Professor Smith does not speak according to knowledge.

But there is, on this subject, ample non-phrenological evidence to sweep away the notions of Professor Smith. Dr. Simms, in the 19th volume of the Medico-Chirurgical Transactions, gives an elaborate account of the weight of the brain in two hundred and thirty-seven individuals, of all ages. We have consolidated some of the averages, so as to shorten the table, and have reduced the weights from avoirdupois to troy, for the purpose of facilitating comparison; troy weight being that commonly employed by physiologists in the record of such cases.

Years of Age.	Number of Brains Weighed.	Average Weight lbs. oz.
1 to 5 .....	20 .....	2 8 $\frac{1}{2}$
5 to 15 .....	23 .....	3 2 $\frac{1}{2}$
15 to 30 .....	22 .....	3 4 $\frac{1}{2}$
30 to 50 .....	51 .....	3 6 $\frac{1}{2}$
50 to 70 .....	77 .....	3 4 $\frac{1}{2}$
70 and upwards, .....	.....	3 2 $\frac{1}{2}$

Here we see proof that the brain gradually increases in weight up to mature manhood, and gradually diminishes in the decline of life. Cruveilhier ascertained the brain in three young subjects to weigh, on an average, 2 lbs. 9 oz. each; whereas, in the Appendix to Dr. Monro's work on the brain, Sir William Hamilton shows the average weight of the adult male Scotch brain to be 3 lbs. 8 oz.; and Professor Tiedemann, who examined 52 brains, states, as the result, that the weight of the adult male European brain varies from 3 lbs. 2 oz. to 4 lbs. 6 oz., troy. By such authorities, from among our antagonists themselves, do we utterly refute Professor Smith, and show the superior accuracy of the phrenologists.

Fact 4, (p. 96.) "It is found that, where duties are deferred to an after-period of life, the parts implicated remain nearly stationary until their action is needed. Of this principle, the changes which occur at the age of puberty, will serve as an example. Now the cerebellum, whose sole office it is, according to the phrenologists, to engender sexual feeling, has, according to Meckel, its relative magnitude at *five or six months* after birth; and its absolute bulk while we are yet *little children*. Here, then, we have by far the largest of the supposed organs, being, indeed, a seventh or eighth of the whole brain, perfected and dormant for eight or ten years."

The principle embodied in the former part of this extract is perfectly sound, and on it the phrenologist relies with the utmost confidence. True it is that, "according to Meckel," the cerebellum attains its full relative magnitude at the age of *six months*; but, *according to nature*, not until the age of puberty.

If the phrenologists have established one fact more clearly than another, it is the one we have just stated. In infants the cerebellum is the least developed of all the cerebral parts, constituting but from about one-ninth (and this very seldom) to one-twentieth of the brain; whereas, in adults, it constitutes from one-fifth to one-seventh of the brain, its nervous fibres being those of the whole encephalon, which are the latest to present a distinct appearance. These statements, if erroneous, Professor Smith has the means of readily disproving. We shall be pleased to hear of his making the attempt. We should then have no fear of his ever afterwards writing in relation to the cerebellum, "according to Meckel."

Fact 5, (p. 100.) "In what manner do you account for the occurrence, that persons of small heads have sometimes great and various *talents*?"

The answer is very easy and very conclusive. By *talents* is here, evidently, meant intellectual powers, the organs of which have their seat in the anterior lobe of the brain. Now this may be large, while the organs of the sentiments and the propensities, which constitute the chief bulk of the brain, are small. If Professor Smith will produce a case in which, not the head in general, but the *anterior lobe*, is small, while the talents are great and various, it will be to the purpose. But such a case he cannot produce.

Fact 6, (p. 101.) "Where persons have been insane for years, nothing unusual in the brain could sometimes be detected; and where morbid changes have been discovered, it was frequently impossible to determine whether they were the *causes* or the *effects* of mental alienation."

If morbid changes could not be *detected* in such cases, which recent investigations lead us to doubt, it would not follow that they did not *exist*. And even if they did not exist, the fact would be as adverse to the doctrine of the brain being the organ of the mind at all, as to that of its being a congeries of organs. Professor Smith seems to think that disease may originate in the mind, and be thence communicated to the mind's organ.

Will he be kind enough to inform us how disease can affect an immaterial principle? And if it can become diseased, will he tell us in what way the disorganization and death of this principle can be avoided?

We have now arrived at that portion of the "Select Discourses" at which their author commences, in more due form, the overthrow of phrenology, by the specification of hostile instances; his leading fact being the following:

Fact 7, (p. 109.) "I have hitherto seen one individual, only, whose head was rather larger than my own, and one who was my equal. Yet, notwithstanding this prodigious 'development,' and although my temperament is not only sanguine, but ardent, I have seen, with sorrow be it said, both in Europe and America, men less amply provided, yet greater than I!!"

If the fact be as the professor states it, phrenology, we can assure him, is not in the least affected because there are greater men than he. The power to attain greatness is the result, not of the mere absolute bulk of brain, but of a well-developed and *well-balanced* brain, in combination with activity of temperament, and favored by external circumstances. Absolute bulk may be occasioned by large propensities; and the individual will, in such case, be little else than a powerful animal, a creature of passion. From the note on page 101, however, it appears that Professor Smith judges of the size of the head by the size of *the hat*, a most erroneous means of judging. "Allow me," says Mr. Combe, (Lectures on Phrenology, p. 111,) "to save you from error. Many, after hearing that size is the measure of power, immediately commence to try on the hats of their acquaintance, and are apt to conclude that the man with the largest hat is the most clever. Now here is a little mistake. The hat is the measure of the head's circumference, in a part of which he need not be so proud. It does not measure a great part of the intellect, and none at all of the moral sentiments. Hatters, in seeming anticipation of moral improvement, have left, in the upper part of our hats, ample room for the moral sentiments to sprout and grow."

If Professor Smith will notice that portion of his hat which comes in contact with his head, he will find that the perceptive faculties are not reached by it ; and that of the size of the coronal region it affords no indication whatever.\*

The professor has so often reverted to his own head in this attack, as to give others, also, full liberty to revert to it. He evidently presents it as a fair subject for public discussion. But for this, courtesy would have restrained us from making to it any reference. As it is, however, we may be allowed to say that we deem the cerebral organization of Professor Smith to be strongly corroborative of phrenology, and should like very much that the question be tested by a jury of his intimate acquaintances. His head is large, not merely posteriorly, but anteriorly, and he is undoubtedly a gentleman of much influence and force of character. But his anterior lobe is deficient in the perceptive faculties, and he is, it appears to us, anything but a man of facts ; on the contrary, he is eminently speculative and hypothetical. We know that he will strongly dissent from this opinion, but we object to his being the judge of his own case ; we appeal, not to his testimony, but to that of his friends. His physiological lectures afford evidence of this. They are

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\* Besides, we must really be allowed to question the sincerity of the professor in making the above concession. He is here too modest by half—for him. Would it not be well, therefore, were he to examine carefully his real convictions, in order to ascertain whether his hostility to phrenology has not led him to place too low an estimate on his own merits ? We are led to believe that such an inquiry would result in an affirmative answer, by the following passage, which occurs in his Eulogium on the late Wright Post, M. D., delivered at the request of the Medical Society of New-York : " By a train of circumstances the most singular and unexpected," says he, " it has fallen to my lot to hold up, however feebly, the *only* man with whom, *in the whole course of my life*, I have come into *any sort* of collision, whose *talents* and whose station could, *for a moment*, induce me, at least, to consider him as a *rival*." This eulogium was, indeed, written twelve years ago ; but we greatly doubt whether he has, in that period, met with any person to whom he would concede higher merit than that which he has, in the above eulogium, awarded to Dr. Post.—*Boston Medical and Surgical Journal*, 14th July, 1841.

crowded with metaphysical opinions and philological distinctions, but are meager in practical teachings. Few new facts are embodied in them ; modern discoveries find little place there ; the manuscript, even, is time-worn ; the very ink has become decomposed ; the tannic acid has entered into new combinations, and left the yellow base alone in its glory. In his head, the organs of Firmness, Self-Esteem, and Combativeness, are very large, if our recollection is right, and his friends can easily correct us if it is not ; and we ask those friends whether the manifestations of these faculties are not among the strongest traits of his character ; whether he does not manifest great tenacity of opinion, great egotism, and a great tendency to oppose, both in private society, and the meetings of the college trustees, and lyceum directors ; and whether he does not watch, with a good-natured sort of earnestness, for something to pounce upon. To be sure, he has an ample development of benevolence, wit, and the social organs, and he is, upon the whole, notwithstanding his self-esteem and combativeness, a pleasant companion and a liberal man. We say again, that we appeal to his friends to say whether the foregoing account of his organization and mental manifestations is not essentially correct. If it is, then does phrenology, in this, as in other instances, corroborate its doctrines by appealing, not to the testimony, indeed, but to the organization of its antagonists themselves.

After giving the above statement about himself, Professor Smith comes down upon phrenology with some "facts" which he considers quite overwhelming. "To avoid error," says he, "I have *selected*, and shall state instances so *strongly marked*, as to render a mistake *impracticable*." Let us examine these formidable antagonists.

Fact 8, (p. 111.) "There was at the college where I was educated, a pupil, of whose physical formation you will have *an accurate idea*, when I state that the students of mathematics used to write on the walls, 'What is a line ? G. M.'s body.' 'What is a point ? G. M.'s head.' This last was so small and round, that hats, being imported, in those days, in what

were called nests—that is, one within the other—Mr. M. was in the habit of selecting the *first* in the series, and it was as perfectly circular when laid aside as when first put on. Now this gentleman labored under no deficiency, and, with *some eccentricity*, was endowed with talents much above the common order."

Fact 9, (p. 111.) "Again, there resided in the same neighborhood, a Mr. C., whose cranium was so diminutive and so globular, that it was a matter also of ridicule. A *turnip* was, in this case, taken as the symbol, where turnips are usually about the *size of the fist*. The similitude, *I have been assured*, by a person *not at all given to romancing*, was very striking. Yet Mr. C. was distinguished for his good sense, and devoid of peculiarities, either positive or negative."

If the head in the former case were really about the size of a point, and in the latter about the size of a turnip, where a turnip is about the size of a fist, we give the matter up. But, then, Professor Smith also will have to abandon the proposition which he lays down on page 128, namely, "that a brain weighing only about *thirty ounces*, or less, is so incapable of performing its functions that idiocy results;" for even thirty ounces of brain would occupy considerable space. The doctor has, however, given us the clue to the size of Mr. M.'s brain, in saying that his hat was the smallest of "a nest." Now the smallest hat of a nest, was always 6*4* inches, at least, in diameter, or about twenty inches in circumference; a rather large hat to cover a mathematical point. And if a head of the size of a mathematical point require a hat twenty inches in circumference, how large a hat it must take to cover a turnip! We suppose, however, that these similitudes are merely intended for witticisms, and that all that is really meant is, that the head, in these cases, was small. Mr. M. "was endowed with talents much above the common order." By talents, are here evidently meant intellectual powers, and the seat of the organs of these powers, as we have before stated, is the anterior lobe, which may be well developed, while the absolute size of the

head is small. Now, as we are not informed of the size of Mr. M.'s anterior lobe, we do not know that it was not well developed, which is the only fact of any importance ; and this information being omitted, the case is utterly irrelevant. As to Mr. C., we do not perceive what business he has there. His head was small, and he had just such a character as is accordant with a small, well-balanced brain. He was a man of good sense, and devoid of peculiarities, either positive or negative. We will let him pursue the even tenor of his way. No harm to phrenology will he ever be guilty of.

Allow us, in this place, to correct the erroneous notion that phrenology speaks slightly of men with brains of rather small or moderate size. A man with such a brain, is still a man, possessing all the faculties appertaining to our common humanity ; and if his brain be well proportioned, his perceptive faculties somewhat predominant, his education judicious, and his temperament active, he is often far better fitted to perform the every-day duties, and to enjoy the every-day happiness of life, than his more amply-endowed brother. Such a man is quick in his perceptions, vivacious in his movements, often brilliant and sparkling in the social circle, of which he is not unfrequently the life and the favorite. He clogs not the wheels of life with too much thought, his face wears not a solemn or fretful expression because of suffering arising from overaction of the brain, or the conscious want of some sphere in which his faculties may have full and energetic play. The domestic and social relations, the ordinary employments and recreations of life, fill him with activity and joy. That this is not often so with the more amply-endowed, the annals of genius prove.

We now come to the great fact of all :—

Fact 10, (p. 112.) "I have been long acquainted with a Mr. J., whose head is the one formerly alluded to, as surpassing my own. This remarkable bulk is chiefly owing to the prodigious projection of the parietal eminences, the 'organ' of 'caution,' 't,' and 'wavering.'

then, we have a case *as strongly marked as a case*

*can be ; and how well phrenology and fact agree, you may judge. The intellectual powers of this gentleman are respectable ; but the characteristic trait of himself and family is COURAGE."*

Professor Smith, on numerous occasions throughout the "Select Discourses," greatly prides himself on his logical acumen, though in his arguments occur some most marked departures from logical consistency, and the above objection is an instance. What would the reader think of our argumentation, if we should say that the eye cannot be the organ of sight, because we know a man in whom the eye is large, and yet who is remarkable for his power of hearing ? Or if we should deny that the lungs aeriate the blood, for the reason that we know a man whose lungs are very large, and yet in whom the secretion of bile is very copious ? Or if we should deny that the stomach digests food, because Mr. Somebody has a large stomach, notwithstanding that the characteristic trait of himself and family is muscular power ? Yet it is readily demonstrable that the above premise and conclusion of Dr. Smith hold precisely the same logical relation to each other as characterizes the premises and conclusions in the supposed instances.

The fundamental doctrine of phrenology is, that the organs of the faculties are distinct, and that each may be large or small, independently of the rest. Now Cautiousness is an organ wholly independent of Combativeness, (or courage,) and Combativeness (or courage) is an organ entirely independent of Cautiousness. The one may be large and the other small, or both may be small, or both large, in the same head. In the case of Mr. J., the organ of Cautiousness is represented as large. What, then, should be the corresponding mental manifestation ? Obviously this : he should be a man who in his general conduct looks well to consequences ; is, in general, circumspect, and who, when he has an important point to decide, and his course is not clear before him, is apt to be troubled with painful hesitancy and irresolution. And what fact alone would be adverse to phrenology ? Clearly this : if it

could be shewn that Mr. J. is incautious, reckless, without foresight, or hesitancy, or distrust. But is Mr. J. such a man? Professor Smith says nothing whatever on the subject. He merely informs us that Mr. J. is distinguished for courage! Courage is a manifestation of the organ of Combativeness. What, then, in relation to this, would be the only fact adverse to phrenology? Why, obviously, if it could be shown that Mr. J. has a small organ of Combativeness. But no information whatever on this point is given. We are merely told that the organ of Cautiousness is large! Both Cautiousness and Combativeness are powers—positive emotions; and to derive Cautiousness from the *absence* of Combativeness, or courage from the *absence* of Cautiousness, is to derive emotions from nonentities, effects from the absence of causes!

Professor Smith uses symbols for the better elucidation of one of his objections; we may be permitted to follow his example—therefore, let

- A represent the organ of Cautiousness.
- B represent the quality of Cautiousness.
- C represent the organ of Combativeness.
- D represent the quality of Combativeness.

Then the phrenological doctrine in reference to Cautiousness would stand thus: the size of A, *cæteris paribus*, directly corresponds with the manifestations of B. And in relation to Combativeness, it would stand thus: the size of C, *cæteris paribus*, directly corresponds with the manifestations of D.

Now Professor Smith tells us that A, in Mr. J., is very large, but he tells us nothing of the manifestations of B. From this statement, therefore, no conclusion can be drawn. He informs us that D is strongly manifested in Mr. J., but he tells us nothing of the size of C. From this statement, consequently, no conclusion can be drawn.

Let us finally, as the professor places so much stress on this case, state his argument syllogistically.

His major proposition would be: If in any individual the

size of A and the manifestation of B do not correspond, phrenology is false.

**His minor:** In Mr. J. the size of A and the manifestation (not of B, mark, but) of D, do not correspond.

**Conclusion.** Therefore phrenology is false.

A most unlooked-for conclusion, since the term D is wholly unknown to the major proposition.

But though the professor's *argument* is thus fallacious, perhaps he deems it a matter of *fact* that courage and cautiousness are incompatible. Is this so? So far from it, that cautiousness is the best companion of courage. Large Combative-ness with small Cautiousness, generally degenerates into rashness, and love of strife. Large Cautiousness with small Combativeness, generally sinks into timidity and poltroonery. An ample development of both is necessary to the prudent yet courageous man. With this combination, Mr. J. would not seek danger, but he would be ever ready to confront and disarm it. Such combination is a characteristic trait of the Fabius and the Washington.

**Fact 11,** (p. 112.) "Lastly, I have known a person, the posterior part of whose head formed so straight a line with the back of his neck, as to be an object of derision. Yet in the absence of Philoprogenitiveness, love of children was a striking feature in his disposition! !"

In no case is the organ of the Love of Young *absent*. It always occupies a considerable portion of the posterior lobe of the brain. Now the professor does not tell us the size of the lobe in the above case. It may have been great, although the neck and the region of Philoprogenitiveness formed a straight line. We have seen several such cases, which the professor may add, if he pleases, to his list of anti-phrenological facts. But in the instances to which we refer, the cerebellum was greatly developed posteriorly, and gave great size to the upper part of the neck, causing the appearance above alluded to. In all such cases it is obvious, at a glance, that there is no deficiency of the posterior lobe. Will Professor Smith examine the

cerebellum in the person alluded to? We doubt not he will find it large, and the region of the Love of Young amply developed.

The professor had said "lastly" to the above "fact," but still goes on, as if not satisfied any more than ourselves, with what had preceded, makes some loose and irrelevant statements, and repeats as true an error of M. Serres, concerning the cerebellum in reptiles and fishes. The reader who wishes to see the views of M. Serres fully examined, is referred to Gall on the Functions of the Brain, Am. ed., vol. vi., p. 185; to Spurzheim's Anatomy of the Brain, Boston, p. 116; and especially to the great work on Human and Comparative Phrenology, by Vimont. The author of the "Select Discourses" concludes, at length, this part of his subject, by saying, "Finally, if the researches of M. Lafarque can be relied on, *and they are correct* as far as my information extends, the principles of phrenology require courage and ferocity in the hare and the rabbit; a sanguinary disposition in the beaver, and that the ferret be guiltless of blood." It is really too bad for Professor Smith to attempt to give the impression that he has confirmed these most erroneous assertions. We do not hesitate to say that he has made no observations whatever on the subject. Let us put one of these assertions to the test. Ferocity is a result of the activity of Destructiveness, and, according to Dr. Smith, the principles of phrenology require this disposition in the rabbit, which is equivalent to the assertion that in it the organ of Destructiveness is large. Let us compare the skull of the rabbit in this respect, with the skull of the cat, the mildest of the *feræ*, and an animal about the same size as the rabbit. We take from our shelves a rabbit's skull of about the medium size, and three cats' skulls which we pick up promiscuously. We will measure them across the region of Destructiveness.

In the rabbit the distance is *nineteen-twentieths of an inch*. In the first cat the distance is *one inch and twelve-twentieths*.

In the second cat the distance is one inch and *fourteen-hundredths*.

In the third cat the distance is one inch and *thirteen-hundredths*.

So much for the organ of Destructiveness in the rabbit!

Having examined the above "hostile" instances which the professor tell us that he has "selected" because they are "so strongly marked as to render a mistake impracticable," which "alternative" shall we embrace? Is it possible that the professor, on account of *such* facts, can expect us to renounce phrenology? This is evidently his expectation, and so strongly does he consider himself entrenched in his position, that he becomes quite severe on his "friends," the phrenologists, as he patronizingly deigns to call them. We shall waste no words in retaliation. It is sufficient for our purpose if we have convicted him of ignorance, misrepresentation, and false argumentation. Whether we have or have not done so, we leave the reader to decide. But if we have done so, Professor Smith cannot consider it unjust if the bitter sentence which he passes upon the phrenologists, namely, that our dialectics "are contaminated with every fault which can attach to a train of reasoning," recoil upon himself.

But the professor's facts do not even yet seem quite numerous enough; for on page 130, he tell us that the Patagonians have "very large" heads, which is not true; and that the Georgians and Circassians confessedly enjoy the finest in the world. If by "finest" the professor means the most beautiful, we will not dispute about matters of taste; but if he means that, according to phrenology, their heads stand foremost in organization; that in them the anterior lobe and coronal region are more amply developed than in any other race, then is he greatly in error; and we venture to say that for this error he can show no authority whatever. As to his "presumptions" about the Incas of Peru, we refer him and the reader to the "Crania Americana" of Dr. Morton, from which the harmony of the cerebral organization of the American aborigines,

with the principles of phrenology, may be most clearly and conclusively shown. And, finally, as to the "*concave*" forehead of the Caribbean chief noted for his knowledge of botany, we may remark, that this form could not exist without being accompanied by a large development of the lower region of the forehead, the very idea of concavity involving the idea of peripheral projection. And as the lower part of the forehead is the seat of the perceptive faculties, the very faculties which give a talent for botany, this fact, so far from being hostile, is directly corroborative of phrenology.

We have now exhausted the facts of Professor Smith ; of their real value the reader is prepared to judge. In reviewing them, we think we have shown ample justification for the opinion before expressed, that the professor has never seriously questioned nature as to the truth of phrenology, but has hastily, and from the beginning, concluded that it is, what he declares it to be, "*à priori*, incredible," and we may now add that his pretended examination of facts appears to us to amount to a mere search for a few opposing cases, with which to overwhelm those who might be obtuse enough not to see the force of his logic. For himself, he needed no facts ; he was sagacious enough to perceive, "*à priori*," the absurdity and falsehood of phrenology. But, since the phrenologists tease people so much about observation, and facts, and induction, he would not be so ill-natured as to refuse to turn his eyes merely towards "the fanciful toy," with which they were so much delighted. When Galileo discovered the satellites of Jupiter by means of his new optical instrument, he invited one of his strenuous opponents to look through it and see for himself ; but this his antagonist peremptorily declined. Professor Smith, to show his liberality, consents to look through the telescope, but then *he is careful to look through the wrong end* ; and thus, instead of bringing truth nearer, throws it still farther in the distance.

Having disposed of the facts of the professor, and ascertained the character of his investigations, let us examine more particularly the *arguments* on which he founds his rejection of

phrenology. In doing this, we shall, on more than one occasion, be obliged to follow him through objections which, in substance, have often been urged, and as often refuted. We dislike the task, but we suppose that, until phrenological knowledge is more generally diffused, these objections must be met in all the Protean forms which our opponents choose to give them; for it is true that old and thrice-refuted errors may often, by the talismanic power of words, be resuscitated, and again clothed with the semblance of originality and truth. Let us, in the first place, then, inquire into the professor's objections to the doctrine of distinct organs in the brain.

It is a general law of physiology, that every organ of the animal economy performs a separate and peculiar function, and that every distinct function is performed by a distinct and peculiar organ. To this law, all that is certainly known of organization and function conforms. Corroborative instances are brought forward by Professor Smith himself, in relation to the nervous system. On page 47, he remarks that "*particular nerves will convey particular impressions, only.*" Thus, sounds do not affect the eye, nor sights the ear. Of this, every one is aware. But," he continues, "the principle extends much farther than is generally known; for although the optic and auditory nerves are of the finest texture, and obey the most delicate stimuli, yet have they no tactile sensibility, and may be cut or torn without pain, so far as can be ascertained." And on page 96, he remarks that "*when a particular purpose is to be answered in the animal economy, by what every one admits to be an organ, we perceive a distinct contrivance, more or less obviously adapted to the end in view, and, as these ends vary, so do the means for their accomplishment.*" This is reasonable, true, and in accordance with the teachings of phrenologists; yet on it the professor founds an objection to the doctrine of distinct organs in the brain. The truth he lays down is, that so far as we are acquainted with the animal economy, "particular purposes" are answered by "particular contrivances;" that "as ends vary," so do "means vary."

Now what is the inevitable presumption from these premises? Clearly this—that in those cases where structure has not or cannot be ascertained, the same law prevails; that every case of difference of function is accompanied by a difference of organization. This presumption can only be rebutted by hostile instances; such instances, however, do not exist. But Professor Smith, instead of adapting his argument to this strong presumption, maintains, in effect, that, because we cannot point out in the brain precise metes and boundaries, it is not a congeries of organs, notwithstanding the great diversity and dissimilarity of its functions. That is, he maintains, impliedly, that though the ends vary, the means do *not* vary. He himself speaks of some of the functions of the brain as being more unlike than the “aeration of the blood and the effusion of bile.” And yet he holds that these functions are performed by the *same* organ;—a fact more improbable and anomalous, according to his own showing, than it would be for the liver not merely to secrete the bile, but to aerate the blood; or, for the lungs not merely to aerate the blood, but also to secrete the bile!

In the same connection, he represents the phrenologist as maintaining that the difference of endowment in the various parts of the brain, is owing to “*difference of position, merely,*” in the cerebral matter. And he opposes him with the remark that it is in the highest degree incredible that “the same cerebral atoms, under precisely the same arrangement,” should, by *difference of position, merely,* become endowed with such different functions. Were such the teachings of phrenologists, they would deserve rebuke. But there exists not a single sentence in any phrenological work ever published, that can be so construed as, by implication, even, to maintain such a doctrine. Let Professor Smith, if possible, convict us of error.

How came the professor by the above proposition? Does he mean to express it as a matter of fact that the brain is composed of “the same cerebral atoms under precisely the same arrangement;” or does he mean it as a matter of inference from a fact previously stated, namely, that “no anatomist *can detect a difference of structure?*” If the former be his mean-

ing, it is unwarranted ; if the latter, it is illogical. To maintain the former, he must be able to show that the atomic structure and arrangement have been ascertained, and that they are as he states them to be. But can he show this ? If his statement, that "no anatomist can detect a difference of structure," does not sufficiently negative the question, the professor certainly gives us the answer on page 204, where he says that "the brain, from its *infinitely delicate* and *curious structure*, is, to our dull perception, very nearly a *terra incognita*." To maintain the latter, he must show logical consistency between his premises and conclusion. But is he prepared to maintain that because we *know not* the atomic structure and arrangement of the brain, that *therefore* the structure and arrangement *are uniform throughout* ? This would indeed be strange in a great logician, such as Professor Smith purports to be. And yet, to either the erroneous assertion or the illogical reasoning, he is certainly bound.

The fact is, that all this talk about atomic structure and arrangement, metes and boundaries, is irrelevant and delusive ; for, firstly, investigation has not yet fully revealed the atomic structure and arrangement of any organ of the animal economy ; and, secondly, the function of no part has ever been discovered by organic structure. Anatomy has, in relation to function, never done more than to corroborate the results of physiological inquiries. So that, after all the professor has said about the matter, a review of facts will bring us to the undeniable conclusion that, as regards those points on which he lays so much stress, we are, in relation to the brain, on the same footing precisely as in relation to the other parts of the nervous system. Every physiologist knows that the ethmoidal nerve takes cognizance of odors ; the optic nerve of sights ; the portio mollis of sounds ; it is supposed that the glossopharyngeal is a nerve of sensation, and the hypoglossal a nerve of motion ; but no one has found out the different organic arrangement of their atoms —no one has ever discovered, in any structural differences whatever, the slightest reason why each of these nerves is fitted to perform its peculiar function, or why it is unable to perform

any other function. The objection that the phrenologist cannot point out the precise metes and boundaries of the organs, is equally futile and frivolous. In relation to one organ, at least, that of Amativeness, it is not true—the metes and boundaries being as distinct as those of the lungs or liver; and the situation and development of the rest can be clearly pointed out. It is true, however, that the precise boundaries of the cerebral organs have not been discovered, nor has the precise boundary line between Maine and New Brunswick; yet no one doubts that the State of Maine and the province of New Brunswick have a separate existence. But what is more to the point, we know the seat of the gustatory nerve, but no one can tell the boundaries of its ramifications. We know the seat of the olfactory nerve, but no one can trace its limits, nor can any one tell at what exact part of the buccal cavity the nerves of touch terminate. In the same sheath, nerves of sensation and motion are bound up, but they cannot be distinguished from each other; their metes and boundaries cannot be pointed out. Stronger yet—physiologists agree that the anterior column of the spinal marrow is the seat of the motory tract of spinal nerves, that the posterior column is the seat of the sensory tract of spinal nerves. No one doubts that between these columns there is a mete or boundary; but, though earnestly sought for, no one has been able to *detect it*. All that can be said is, that the motory tract is bounded posteriorly by the sensory tract, and that the sensory tract is bounded anteriorly by the motory tract; just as the phrenologist says that the organ of Veneration is bounded posteriorly by that of Firmness, and that the organ of Firmness is bounded anteriorly by that of Veneration.\* It is

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\* Sir Charles Bell maintains that there are three spinal columns; the anterior for voluntary motion, the middle for respiration, and the posterior for sensation. That the anterior portion of the spinal chord is for motion, and posterior for sensation, all admit; the existence of a respiratory column, is deemed problematical. If it exists, however, it but adds force to the argument in the text, inasmuch as no line of separation between any two of these columns can be discovered. Anatomical researches throw no light whatever on this question; physiological observations only can determine it.

no doubt true, as Mr. Solly, in his admirable work on the brain, remarks, that "it is quite possible that perfect distinctness of parts, as regards their function, may exist without any visible line of separation," (p. 153.) The objection of Professor Smith might be urged with equal force against distinctness of function in the various parts above mentioned. But to us the true aim of philosophy appears to be, not to accumulate but to remove obstructions; not to give up what we have because we possess not all, but to hold fast that which we possess, while we earnestly strive for higher attainments; not to bury our one talent in the earth because it is not ten talents, but sacredly to guard and profitably to employ it, that our stores may accumulate.

On page 95, the professor brings forward an objection against the plurality of organs in the brain, founded on the *complexity* of its anatomical structure. He calls particular attention to the commissures which establish a communication between its various parts, and adds: "So complex an apparatus of tracts, chords and bands, affecting so close a union, can lead to no other conclusion than that the sensorium is an intricate machine, destined to perform its functions as an associated whole;—not that every portion of it is on all occasions necessarily and equally employed, but anatomy certainly opposes, so far as it can oppose, the idea of *insulation* in the operations of the *cerebrum*." To the essential points of this extract, we would ask the attention of the reader.

1. It is here expressly maintained that the brain is complex in its structure—that it is an intricate machine. Now we ask whether this *complexity of structure* is not in precise harmony with the *complexity of function* for which the phrenologist contends. If every part of the brain can perform every function of the brain, difficult indeed would it be to reconcile this complexity and intricacy of structure with the fact, everywhere else confirmed, that nature attains her ends by the most simple and direct means.

2. This complexity, says Professor Smith, leads to the con-

clusion that the brain is destined to perform its functions "as an associated whole;" nor, however, "that every portion of the brain is, on all occasions, necessarily and equally employed." On the first of these observations we remark, that the intimate association of every part of the brain with every other part, is strictly accordant with the plurality of cerebral organs; for, in most mental operations, two or more of these organs have to work simultaneously in associated activity, which renders this intercommunication essential. In relation to the second of these observations, we ask, If, in any given mental act, any portion of the brain be not employed, is it not because the action of that portion would not produce the desired end? And is not the rest of the brain active because, by its action, the desired result can be attained? Surely an affirmative answer to both questions is the most rational. But still further—may not the part that is active be the part which, according to the phrenologist, constitutes the very organ or organs, the action of which would, in the given case, be required? There is, at any rate, (and this is the only position we are here bound to establish,) nothing in the above statements of the professor unfavorable to such a presumption.

All the preliminary observations, however, seem to have been made for the purpose of adding force to the closing point, namely, "anatomy certainly opposes, *so far as that science can oppose*, the idea of *insulation in the operations of the cerebrum*." It will be perceived that the professor himself is very doubtful to what extent, if to any, anatomy can oppose this idea, and that he impliedly excepts the *cerebellum* from the influence of his observations. But what can the professor mean by "*insulation in the operations of the cerebrum*," if not the activity of one part while the other part is quiescent? He has, however, precluded himself from urging an objection to such insulation, for he has just admitted that all the brain is not in action in every mental operation; and especially is such an objection incompatible with a doctrine laid down by him on page 130, namely, that the anterior lobe of the brain is the especial seat

of the reasoning faculty. If, therefore, the professor means that one part of the brain cannot act while the other is quiescent, then does he contradict himself; and if he do not mean this, then we do not know what he means, and consequently cannot answer.

In confirmation of the doctrine that one part of the brain may be active while the rest is inactive, we adduce two facts—one resting on the authority of Dr. Smith, and the other readily ascertainable by him. On page 82, the professor mentions a young man who lost a portion of the frontal bone, a distinct osseous edge remaining—after which, “close study would cause such internal soreness and external inflammation,” as would compel him to desist. “It is quite certain,” says the professor, “that, here, *motions* of some kind had occurred in the *cephalic mass*”—that is, of course, in the *anterior lobe*, the seat, according to phrenologists, of the intellectual organs; and the professor, it will be observed, expressly limits the cause of such an occurrence to close *intellectual* action, the influence of the feelings and passions being excluded by this limitation. As a contrast to this, we may refer to a child of Mr. Mapes, a scientific gentleman, who is a member of the Society of Natural History, of which Professor Smith is a vice-president. At four years of age, she fell from a room window, and her skull was so much fractured that a considerable portion from the posterior superior region had to be removed. The integuments healed over, however, and she recovered. Now, through the integuments, it may be observed that, when those feelings are excited, the organs of which, according to phrenologists, lie in the region of the fracture, the brain is felt through the integuments to be in a great commotion; but if, when thus excited, the child’s attention be drawn to, and fixed upon a mathematical problem—a case in which, according to Dr. Smith, “every feeling dies within us”—all this commotion of the region disappears, and nothing remains but the regular arterial throb, (*Combe’s Lectures on Phrenology*, p. 340.) We have heard Mr. Mapes describe the sensation produced by

these motions of the brain, as like those produced by the strug-gling of a leech through the folds of a silk handkerchief. Here, then, we have peculiar motions in the anterior lobe of the brain during intellectual action, and, so far as we can judge from the report of the case, quiescence of this lobe during the activity of the feelings ; we have, too, motions in the region of certain sentiments, during the excitement of those sentiments, and quiescence of that region during the activity of the intellect. Such cases strongly corroborate the doctrine of distinct cere-bral organs, and conclusively demonstrate that various portions of the brain may be independently active.

Another argument, founded on anatomical considerations, and urged by Professor Smith, is the following : " Nature adheres to the model which she may have adopted, with a pertinacity proportioned to the importance of the part." " The arrangement of the interior of the brain is, in different persons, *uniform*, notwithstanding its superficial *convolutions* meander in a manner *by no means constant*. The inference, therefore, would appear to be, that the former constitute the *efficient*, and the latter, *supple-mental* and *unimportant* portions of the sensorium. Yet upon those the phrenologist lays *no stress whatever*, while these he designates as his organs. Has he erred, or is nature inconsis-tent ?"—or, it may be added, is Dr. Smith in ignorance and error ?

Were we disposed to adopt the professor's mode of procedure, we should say that, according to Sir Charles Bell, " whatever we observe on one side of the brain, has a corresponding part on the other ; and an *exact resemblance* and *symmetry* is pre-served in *all* the lateral convolutions." We might thus leave these two of our opponents to settle the difficulty between them. But we prefer the exact truth, which is, that there is not in the convolutions of the opposite sides an " *exact*," but a general resemblance and symmetry—a symmetry as great as between corresponding parts of other portions of the body.

It is not true that " the phrenologist lays no stress whatever " on the internal parts of the brain. Every part is to him the

object of careful study, from the *medulla oblongata* to the peripheral surface of the convolutions. But he endeavors to discover the true nature of every part. He is careful not to magnify the importance of slight deviations from exact symmetry; and especially does he guard against speaking of different parts of the same, as though they constituted essentially different organs, or as though any part of nature's noblest work were unimportant. The phrenologist finds the pyramidal bodies commencing together at the upper part of the motory tract of spinal nerves, proceeding together, and increasing in size equally; he finds that their fibres decussate, plunge into or through the annular protuberance, receive many additional fibres from its cineritious matter, emerge from the pons greatly augmented in volume, form the anterior and outer two-thirds of the cerebral crura, and proceed, increasing as they go, until they reach their destination in the convolutions, which convolutions, on each side, essentially correspond in size, number, and form. In like manner he perceives fibres arising in the *corpora olivaria* pass on, form the posterior and interior parts of the crura, plunge into the so-called optic thalami, and become greatly increased; unite, at the superior part of these bodies, into bundles, and then diverge like rays—the anterior bundles, however, traversing the striated bodies, and becoming still more enlarged; the extremities of all these rays he finds covered with cineritious matter, thus forming convolutions. In like manner, he traces the *corpora restiformia* to their ultimate expansion in the cerebellum. He sees, too, that when the pyramidal bodies are large, the convolutions into which they ramify are large; and when small, that the corresponding convolutions are small. He perceives the same correspondence between the optic thalami and the size of the convolutions forming their ultimate expansion, and between the annular protuberance and the cerebellum, and thus comes to the conviction of an intimate connection, a mutual dependence, a continuity of parts between the internal portions of the brain and the convolutions; and he maintains, as the rational presump-

tion, that these internal parts are subsidiary in their character, chiefly tending to the formation, perfection, and association of the convolutions, which he considers the more immediate seat of mental action. This view is corroborated by the researches of pathologists, who observe that arachnitis of the periphery, or convexity of the brain, is early characterized by prominent and violent symptoms of delirium; whereas, arachnitis of the deep-seated parts of the brain is of a more latent, insidious, and comatose character, delirium being often entirely absent. In view of such facts, the phrenologist, whilst acknowledging the difficulty of the inquiry, and liability to error, cannot bring his reason to approve, or even to tolerate the supposition of Professor Smith, that the convolutions form merely "*supplemental and unimportant*" portions of the brain.

But let us take another view of this position of the professor. It is a well-known fact that the number, form and arrangement of the internal parts of the brain are *alike in man and many of the lower animals.*\* They may be learned from the brain of a *sheep*; while the convolutions are more complicated and voluminous in man than in any other being, and he has some which in no other being exist. Now, as the professor maintains that the brain is the instrument of every mental act, we would ask whether the material cause or medium of man's mental superiority must be looked for in those parts of the brain which *in man and animals agree*, or in *those in which they differ*?—in the *internal parts*, in which the *sheep* is man's fellow, or in the convoluted portions, in which man is so much the superior? Surely there can be but one answer to this question, and that by no means favorable to the notion that the convolutions are "*supplemental and unimportant.*"

That the convolutions of the brain are *somewhat important*, may be gathered from the phenomena of idiocy and genius. What may be noticed in the brains of idiots, in the meager

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\* That these internal parts in man and animals differ in size and in the nature of many of their constituent fibres, we, of course, fully believe. But the professor's objections are founded solely on considerations of *form and symmetry*.

brains of "thirty ounces or less," of which the professor speaks ? Any less symmetry in the internal parts than in the brains of men of genius ? Certainly not ; but shrunken, shallow, imperfect or deficient convolutions. And what is observed in the brains of men of high mental power ? Read the *post-mortem* examinations of the brains of such men as Byron, Scott, Cuvier, and Dupuytren. Any remarkable symmetry of the internal parts ? No ! but we are told of "convolutions of extraordinary size and depth." Does nature err, or Dr. Smith ?

Intimately connected with this subject, is an anatomical fact of great interest. It is this :—Throughout nature the complexity of the brain increases with the complexity of an animal's mental functions ; in those animals the brains of which are convoluted, the convolutions increase in size and number as the mental powers and capacity of the animals increase ; in short, to use the language of Dr. Roget, in the *Encyclopaedia Britannica*, "There is no part of the brain found in any animal which does not exist also in man ; whilst several of those which are found in man, are either extremely small, or altogether absent in the brains of lower animals ;" or, to use that of Dr. Conolly, in the 94th number of the *Edinburgh Review*, as an animal ascends in the scale of mentality, so does "its brain improve in structure and augment in volume, *each addition* being marked by *some addition or amplification of the powers* of the animal, until *in man* we behold it *possessing some parts of which animals are destitute, and wanting none which they possess.*" Now, we would ask, is it not in the very highest degree probable that those parts of the brain which man and animals possess in common, constitute the organs of those faculties which they also possess in common ; and that those parts possessed by one animal, but not by another, constitute the organs of those faculties which the one possesses and the other does not possess ?—and man, "possessing some parts of which animals are destitute, and wanting none which they possess," can we come to any other conclusion than that the additional parts in the brain of man, constitute the organs of those faculties which in man are additional—which confer on

him his proper humanity, and form the bond of alliance between him and his Creator? And what parts of the brain are in man additional? Clearly some of the convoluted parts, the upper portion of the forehead and certain portions of the coronal and superior lateral regions, where exist, as observation proves, the seat of reason and of sentiment, the sanctuary of man's high and distinguishing mental attributes; the faculties which enable him from effects to reach back to causes, and from causes to reach forward to effects; which endow him with conscience and benevolence, with the emotions of hope and veneration, with the love of the beautiful, the spiritual, and the true. The observations of the phrenologist are corroborated by this; whenever the convolutions of the superior part of the forehead are absent, or developed in a very small degree, the man is an unreasoning idiot; and when the convolutions of the coronal region are very small and shallow, he is a moral idiot; and when both are very deficient, he is stripped of his proper humanity, is rather brute than human; while, if the rest of the brain is well developed, he energetically manifests the animal functions.\* Such facts appeal to our understanding with irresistible force in favor of a plurality of organs in the brain; and they must, at any rate, demonstrate to every man, that the convolutions of the brain are not merely "supplemental and unimportant portions of the sensorium." On this subject the superior correctness of the phrenologist is supported by many anti-phrenological writers—Magendie, Tiedemann, Sir Charles Bell, and others. This last author says: "When we compare the structure of the brain in different animals, we find that in certain lower classes there are no convolutions; the surface of the cineritious matter is uniform. As we ascend in the scale of beings, we find the extent of the cineritious matter increased. To admit of this it is convoluted, and the depth

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\* "The organic character of idiocy may be of two kinds; the result of original malformation, or dependent on morbid action. Of the first description is the smallness of the brain, the deficiency of *its anterior and superior convolutions*, which give the idiot's head the aspect of the inferior animals."—*Andral on Idiocy, &c. The Lancet*, February 16th, 1833, p. 650.

of the sulci is the consequence of the extension of the great cineritious mass ; and in man, above all other animals, are the convolutions numerous, and sulci deep, and consequently the cineritious mass, and its extension of surface, far beyond all other creatures.” (*Anatomy*, vol. ii., p. 385, Eng. ed.) Here, then, we have another disagreement among our opponents themselves.

On page 119, Professor Smith attempts to show that even if the cerebral organs exist, they cannot be ascertained during life—1st, on account of the irregularities of the skull ; 2d, on account of the frontal sinus. The first of these objections we have already sufficiently answered, and we shall not again dwell upon it. The professor himself, we think, places no reliance on it ; for various parts of his work show that he, in all cases, judges of the form and size of the brain from the form and size of the skull or head, the form and size of his own brain not excepted. Magendie shall in this case answer his anti-phrenological coadjutor. “The only way,” says he, “of estimating the volume of the brain in a living person, is, to measure the dimensions of the skull.” (*Compendium of Physiology*, p. 104.)\*

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\* Still more explicit is the writer of the article on phrenology in the “Penny Cyclopaedia ;” who, though an opponent, acknowledges that “many of the objections commonly made against phrenology, are undoubtedly of little weight. Such, for example, are the statements that, in consequence of the irregularities of thickness in the coverings of the brain, it is impossible to determine its form by examination of the exterior. This objection only shows that there are sources of fallacy in the practice of craniology, a fact which no phrenologist denies. But, on the greater part of the head, the difference of thickness of the coverings of the brain, are not such as would lead into error ; the majority of them are nearly constant in their amount, and are easily recognized by any one acquainted with the anatomy of the skull, and the rest are not sufficient to give that degree of elevation or depression to any part of the exterior of the head, which would be regarded as indicative of excessive or deficient development of any organ. No one accustomed to *post-mortem* examination can hesitate to admit that the form of the greater part of the exterior of the head, corresponds as nearly with that of the surface of the brain, as is necessary for craniological purposes.” If this writer be correct, then is Dr. Smith convicted of ignorance of the anatomy of the skull, and of being unaccustomed to *post-mortem* examinations, while, on the other hand, the correctness of the phrenologists is established.

But, as to the frontal sinus. This is a regular article of almost every anti-phrenologist's stock in trade. It is repeated by professor and student, by the ponderous review and the ephemeral paragraph. Even the most unlearned have caught the term, and "sinus, sinus, sinus," is forever ringing in one's ears. If the anti-phrenologist knows no other, he knows this objection, in name, at least. It is to him, what "oh la!" was to Dicky Suet ; and we may say of him as Elia says of Dicky, "he drolls upon the stock of these two syllables, richer than any cuckoo." The reader would hardly suppose, from the important air with which this objection is paraded, that Gall was the first writer to point out, and that to the fullest extent, the difficulty it presents. Yet such is the fact ; and we ask whether Professor Smith was not bound to give the phrenologists credit for this, instead of bringing forward the objection in such manner as to convey the impression that it is a matter of which they are ignorant, or which they are desirous to conceal. We acknowledge that the frontal sinus does present a real, though very small, obstacle ; but let us present the matter in its true light, stating briefly for that purpose the argument of Mr. Combe.

1st. Until about the *age of fourteen*, the frontal sinus either does not exist, or does not extend as high as the base of the brain. Up to this time, then, the form of the skull in this region is a correct indication of the size of this part of the brain ; and the perceptive organs which lie here being very active at an early period, there is ample opportunity before this age to observe the development of the organs in this region, and the manifestation of the corresponding faculties.

2nd. The frontal sinus interferes with *five, only*, of the organs, leaving thirty, at least, uninfluenced ; for it would be quite as logical to speak of a snow-storm in Norway obstructing the high-road from Edinburgh to London, as of a small sinus at the top of the nose concealing the development of Benevolence, Firmness, or Veneration, at the top of the head.

3d. After the age of fourteen, the frontal sinus is for some

years rather an absence of the diploë of the skull, than an actual separation of the two tables ; and, in after-life, its size is, as Professor Smith acknowledges, "ordinarily" indicated by external appearances.

4th. When there is a deficient development of the region in question, the subjacent organs will be stated by the phrenologist as small, and the manifestation of the corresponding faculties as feeble. Now, suppose, in such a case, the sinus to be of greater than average size, what will be the result ? Why, the organs will be smaller, and the faculties feebler, than the phrenologist had anticipated. The error, therefore, will be all on his side, and consequently but one class of cases remain, concerning which there is any difficulty ; namely, those in which the region in question is largely developed, but the development is owing to an extraordinary size of the sinus, and not to a large development of the brain. But as the sinus is very seldom of great size, except in cases of disease\* and old age, which the phrenologist does not take into account in ascertaining or demonstrating the cerebral functions, this source of error is confined within very narrow limits.†

Upon the remainder of the professor's objections on this point, we shall not dwell, but merely observe that phrenologists do not maintain that the organs of the perceptive faculties shrink, "as we advance from adolescence to mature manhood." What they do say, is, that these organs very commonly shrink in old age, and that this shrinking is accompanied by a diminution of perceptive power. As to the formula of the professor, on page 122, we will let it pass. It would be a pity to disturb so inter-

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\* The shrinking of the brain in disease of that organ, is dwelt upon by others than phrenologists. Esquerol mentions an insane female, whose forehead, on her admission into the hospital, was so large that he had a drawing made of it, but afterwards it became small and narrow.

† This is acknowledged by our opponent, in the Penny Cyclopaedia, before quoted. Speaking of the frontal sinus, the superciliary ridge, and the orbit, he says :—" From these several circumstances, however, the utmost objection that can be raised is, that there must, in general, be *some* difficulty in determining the size of these few parts of the brain."

esting a specimen of the plausible absurd. Its garb of profundity may, in many cases, enable it to glide past the understanding of the reader unquestioned; but when the understanding does for a moment dwell upon it, surprise will arise that so superficial a thing should have had a moment's power to deceive.

We have alluded to Professor Smith's views as to the seat of the reasoning faculties. We would in this place ask for them more particular attention. On page 130, he says, "there is, in my opinion, sufficient evidence to induce the belief that the more forward parts of the brain, in anatomy the *anterior lobes of the cerebrum*, are principally employed in carrying on those operations of the mind, which require the exercise of our *reasoning powers*." We remark, first, that the anterior lobe is not the seat of what the professor has before chosen to consider the "efficient parts" of the brain, but is composed almost entirely of the so-called "supplemental and unimportant parts of the sensorium," which are here acknowledged, however, to subserve the important office of "carrying on those operations of the mind, which require the exercise of our reasoning powers;" the distinguishing attributes of the human intellect. We have, too, an implied acknowledgment, not only that a particular portion of the brain may have an especial function, but that the seat of that function may be discovered during life; and further, that the phrenologist is right in his belief as to the particular seat of the reasoning faculties—the only difference between him and the professor being that the latter speaks of the anterior lobe generally, and the former of a particular portion of it, to wit, the anterior superior part. In the succeeding paragraph, the professor expresses an opinion in still more exact accordance with phrenological views. "I hold it to be *certain*," says he, "that, comparing races of men and classes of animals, the intelligence will be in proportion to the projection of the frontal lobe." This is almost equivalent to the phrenological proposition, that the anterior lobe of the brain is the especial seat of the intellect. We ask, therefore,

whether the professor does not in this place virtually abandon his objections, and especially his opposition to the doctrine that particular parts of the brain have particular functions? It really appears to us that after disputing the ground with the phrenologist, inch by inch, ingeniously, urgently, tenaciously, and in tones of triumph, he comes forward at the close, and voluntarily relinquishes the field, acknowledging that he cannot deny but that the phrenological doctrine is true. That such relinquishment is intended, we do not maintain; that in judgment of reason it is given, we seriously affirm.

That the brain is a congeries of organs, physiological observation, anatomical structure, general analogy, pathological facts, and sound reason, unite to prove. Without it, the physiology of the brain is involved in chimerian darkness—the manifestations of mind are inexplicable. Commencing with the position that the brain is engaged in every mental act, how, by its unity of function, is it possible to explain the diversity of talents and dispositions; the successive development of the mental faculties; the phenomena of partial sleep, dreaming, and somnambulism; of monomania or partial insanity; of partial idiocy, partial genius, and other analogous phenomena? So far is this unity of function from explaining these phenomena, that against it every one of them rises in irreconcilable contradiction and hostility; but, with the doctrine that each faculty of the mind is manifested by a particular organ, all these phenomena clearly and beautifully harmonize.

In our efforts to rid this most important proposition of the doubts and difficulties in which Professor Smith has involved it, we trust we have shown that to it facts are not hostile, but favorable; that physiological phenomena are irreconcilable with any other doctrine; that, with it, correct anatomy is in perfect harmony. We trust we have shown, too, that the professor's objections are unsound and ill-taken, and that his arguments are erroneous in their logical sequences. Let us, in conclusion, however, be permitted to remind the reader never to lose sight of the important fact that phrenology is an experimental

science, and that, for full and entire satisfaction of its truth, he must resort to the observation of nature, our great teacher and advocate.

Professor Smith strenuously objects, also, to the phrenological proposition, that "Size, other things being equal, is the measure of power." To us, nothing seems more conclusive of the prejudiced or unreasoning spirit of our opponents than their denial and denunciation of this principle—a principle comprehensive as the creation itself, and which really seems self-evidently true. If one cubic foot of matter possesses a certain amount of attractive force, have not two cubic feet of like matter twice that attractive force? If a square inch of pulmonary surface has a certain amount of aeriating power, have not two square inches, similar in every respect, twice that aeriating power? If one muscular fibre possesses a certain amount of strength, do not two such fibres possess twice that strength? Must not two equal nervous fibres have double the power of one of those fibres? and two equal square inches of tactile, auditory, gustatory, optical, or olfactory surface, have twice the respective, specific power of one? And is not this law of size equally applicable to the brain and its several parts? The affirmative of these questions possesses mathematical certainty.

When we commenced the perusal of the "Select Discourses," we did not anticipate opposition from Dr. Smith on this point; for, on page 7, he lays it down as "*a well-established principle*, that the effect which any organ produces in the body, is in the compound ratio of its *relative bulk*, and the quantity of aerated blood which it may receive." On page 48, he states still more explicitly that "*the function of a part, whatever that function may be, is always performed with a vigor proportioned to its bulk*, and the greater or less supply of aerated blood which it may receive, unless the afflux of that fluid be so redundant as to prove suffocating, or so long-continued as to become exhausting." Here size is stated as the absolute and exact measure of power, except so far as its influence is modified by

the supply and quality of the blood. But truth requires that the proposition be not so broadly stated ; for, though the supply and quality of the blood are very effective modifying conditions, they are by no means the only ones. In the muscles, for instance, the influence of size is modified by the greater or less delicacy and compactness of the fibres, the greater or less amount of training, the greater or less supply of motory nerves; and the greater or less cerebral energy, as well as by the supply and quality of the blood. And it is absolutely necessary to correctness, in treating of any part of the system, that *all* the modifying influences should be estimated as accurately as possible. The only true mode of stating the proposition is, therefore, the phrenological mode—"size, other things being equal, is the measure of power."

But we must now change our course, in accordance with our Petruchio's varying mood. We have seen that, above, he has been too latitudinarian in his views. It was, however, when not under the disturbing and darkening influence of anti-phrenological excitement. No sooner does he come within the verge of that influence, than principles have to change, and nature to reverse her laws, rather than the phrenologist be allowed a foot of neutral ground on which he may rest in peace. The professor attacks the very principle which he had so broadly and explicitly stated, as though it were fearful heresy, and soon arrives, to his own entire satisfaction, at the conclusion that it is false and groundless ! After which, however, as if suddenly relenting, he says that he will, as a matter of "generosity," "concede something to the size of the head, and the varying conditions of the circulation." We, in return, would propose that nature unite with the phrenologist in returning thanks to the professor for this liberal concession.

On page 129, after stating that "a brain weighing thirty ounces, or less, is so incapable of performing its functions that idiocy results," he acknowledges that he is "*inclined* to believe that, if you take one thousand persons with heads *unusually* large, and one thousand with heads *unusually* small, that

the former will, collectively, surpass the latter ;" and that, "since the brain forms the material instrument of thought, it may well *happen* that quantity is, to a *certain extent*, indispensable to its efficiency!" As if fearful, however, that this doubt may be construed too liberally, he afterwards very gravely affirms that, "between individual and individual, mere *bulk* of head is an element of *no appreciable importance*," (p. 130.) But, as if he had not already sufficiently puzzled the reader about his meaning, he follows up this by stating his opinion that, "comparing races of men and classes of animals, the intelligence will be in proportion to the *projection* of the frontal lobes;" and by eulogizing the accuracy of phrenologists, in doing what they do not do—taking the *distance* directly from the auditory passage to the most projecting part of the forehead, as the measure of intelligence. May we not ask the professor on what "*projection*" and "*distance*" depend, if not upon size? the very element which he has been treating so cavalierly! The phrenologists must indeed be sorry dialecticians, if Professor Smith is entitled to school them about logic and consistency!

The fact is, that the doctrine of size, as stated by the phrenologist, is fully and completely recognized by all physiologists when treating of every part of the animal economy, except the brain; and by many of them, as Cuvier and Tiedemann, when treating of this organ also. Let us show their usual language by a few extracts from Dr. Roget, an anti-phrenologist of eminence—first observing, however, that this writer, in his article on "Cranioscopy," published in the *Encyclopedie Britannica*, opposes the doctrine of size by the following argument: "To the *perfection* of a refined and delicate instrument, such as must be that which is subservient to the operations of the intellect, innumerable conditions must concur, among which that of size, it is reasonable to suppose, is the least important. Delicacy of texture, fineness of organization, and harmony of adjustment between the several parts of its complete structure, must contribute infinitely more towards rendering it *capable* of

performing its office, than superior magnitude." This is a specimen of the truly fallacious mode of reasoning resorted to in what has been called "the most formidable attack phrenology ever had to sustain." The phrenologist, in comparing two instruments, of *like structure and function*, says that the largest, other things being equal, will be the most powerful. This is a "phantom," says Dr. Roget. Size is not the measure of power in the brain, because its *appropriateness* of structure, its *perfection* as an instrument, its *capability* of acting as the mind's organ, depends more upon other things than size! And thus one truth is gravely opposed by the assertion of another equally plain and perfectly harmonious truth. We have the form, but not the substance of an argument—a collocation of words by which sound is enabled to play a trick upon the understanding.

Let us now turn to Dr. Roget's article on "Physiology," also published in the Encyclopedia Britannica, and mark the living energy, the pervading influence, of this much-abused principle :—

§ 926. "*Every part of the organ of smell is developed in quadrupeds in a degree corresponding to the greater extent and acuteness in which they enjoy this sense compared with man.*"

§ 938. "The eye of the bat is remarkably *small*, but the *imperfections* which probably exist in the sense of sight, are amply compensated by the *singular acuteness* of that of hearing, the *organ* of which is *exceedingly developed*."

§ 940. "The ethmoid bone is of very complicated formation in the male, especially in the numerous convolutions of its turbinated process, by which a *very large surface* is given to the Schneiderian membrane, which lines every portion. *This structure indicates* the possession of a *very acute sense of smell*. The *remarkable development* of the internal parts of the ears, is also *conclusive evidence* of the *delicacy of the sense of hearing* in this animal, although it has no external ear whatever."

§ 948. "In the genus *felis*, the long bristly hairs which constitute the whiskers, receive *very considerable nervous filaments*,

and appear subservient to the *sense of touch* in a *very remarkable degree.*"

§ 998. "In the whale, the *olfactory organs* are *not adapted* to the possession of any *acute sense of smell*, being furnished neither with turbinated bones, nor with any considerable nerves."

§ 1,015. "The eyes of birds are *very large* in proportion to the size of the head, and appear to be adapted to a *great range of vision.*"

Dr. Roget, in the Bridgewater Treatise, of which he is the author, says: "In proportion as the intellectual faculties of animals are multiplied, and embrace a wider sphere, *additional magnitude* and complication of structure are given to the nervous substance, which is the organ of those faculties. The greater the power of combining ideas, and of retaining them in the memory, the greater do we find the development of the cerebral hemispheres."

Here we see the principle which Dr. Roget styles a "phantom," completely imbuing, as it were, his physiological remarks. Its truth is indeed so plainly written on every page of nature, that **LARGE** and **POWERFUL** are treated almost as synonymous terms. We might note down volumes of such facts as the foregoing, confirmatory of this principle, but these must suffice. Let us turn again, for an instant, to Dr. Roget's "Cranioscopy." There we shall find, in opposition to facts by him so explicitly stated, that he quotes approvingly Professor Hufeland's assertion, that small eyes see with more strength than large ones,\* and then asks, "*why may not this be also the case with the organs of the brain?*" Aye, why not? What reason can be given why a brain may not be increased in power by a diminution of its size? Why may not size, *cæteris paribus*, be the measure of feebleness instead of might? This very interesting anti-phrenological problem we leave, as an exercise of the

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\* In the application which he makes of this quotation, Dr. Roget seems to have forgotten that it is not the mechanical frame-work of the eye, but the retina, which constitutes the true external organ of vision.

reader's ingenuity. After solving it, he will be prepared to try his skill on another problem equally difficult; namely, why may not a half be greater than the whole?

To prove that size is the measure of power in the brain, we will proceed to the consideration of a few well ascertained facts.

That man is superior to woman in general mental power, is almost universally acknowledged, we believe, by the gentler sex, even. In accordance with this, is the superior size and weight of the brain in man. In the appendix to Dr. Monro's work on the brain, Sir William Hamilton states the average weight of the adult male Scotch brain to exceed, by four ounces, that of the adult female Scotch brain. Professor Tiedemann states that "the female brain weighs, on an average, from *four to eight ounces less* than that of the male, and that this difference is already perceptible in a *new-born child*."

The varying size of the brain at different ages, is another strong corroboration of the principle for which we contend. Mental power is least in infancy; it strengthens in childhood and youth; attains its acme in the vigor of manhood, and declines in old age. The size of the brain follows precisely the same course. It is least in infancy, increases through childhood and youth, attains its full size in the maturity of manhood, and diminishes in the decline of life. We have before given the results of the researches of Simms, Cruveilheir, Hamilton, and Tiedemann, on this subject; we may here more appropriately add the following remark of Tiedemann: "I have generally found the cavity of the skull *smaller in old men* than in middle-aged persons. It appears to me, therefore, probable, that the brain really decreases in old age, only more remarkably in some persons than in others;" and "according to the researches of Desmoulins," says Dr. Stokes, (*Lectures on the Theory and Practice of Physic*, edited by Dr. Bell, p. 256,) "it appears that in persons who have passed the age of seventy, the specific gravity of the brain becomes from one-twentieth to one-fif-

teenth less than that of the adult. It has also been proved that this atrophy of the brain is connected with old age, and not, as it might be thought, with general emaciation of the body; for in chronic emaciation from disease in adults, the brain is the last part which is found to atrophy."

The difference between the brain of the idiot and that of the man of great general mental power, strongly corroborates our proposition. Dr. Voisin states that in the lowest class of idiots under his care at the Hospital of Incurables, the horizontal circumference varied from *eleven to thirteen* inches, and the distance from the top of the nose to the occipital spine, over the top of the head, was but eight or nine inches. Professor Tiedemann says, that in cases of congenital idiotismus, the brain rarely exceeds in weight that of a new-born child. On the contrary, he remarks, that "the brain of men who have distinguished themselves by their great talents, is often very large. The brain of the celebrated Cuvier, weighed 4 lbs. 11 ozs. 4 dr. 30 grs. troy, and that of the celebrated surgeon Dupuytren, weighed 4 lbs. 10 ozs. troy." He subsequently remarks that the observations of Gall, Spurzheim, Haslam, Esquirol, and others, on this subject, are confirmed by his own researches. "As a general rule," says Andral, "when the circumference of the head is only between twelve and fifteen inches, the mental condition can be little above idiocy. Eighteen inches may be regarded as the circumference necessary for intelligence. At twenty, the mental faculties are still more developed, and from twenty to twenty-two inches, they attain their maximum of power." (*Andral on Idiocy, &c. The Lancet*, Feb. 16, 1833, p. 653.)

But let us look at facts as we see them presented in the organization of the various races of mankind. And here, in addition to all that the phrenologists have accomplished, we have the results, especially, of Dr. Morton's labors, as presented in his valuable work, the *Crania Americana*, almost every which is confirmatory of phrenological doctrines. work we copy the following most interesting table,

containing the results of his measurements of the capacity of near two hundred and fifty skulls :—

Races.	No. of Skulls.	Mean internal capacity, in cubic inches.	Largest in the series.	Smallest in the series.
1. Caucasian,	52	87	109	75
2. Mongolian,	10	83	93	69
3. Malay,	18	81	89	64
4. American,	147	80	100	60
5. Ethiopian,	29	78	94	65

He who is acquainted with the history of mankind, and the character and comparative influence of its various races, will at once appreciate the bearing and force of the above results. At the head of the list we see the Caucasian race, the master race of the world, the arbiter of its feebler brethren. At the foot of the list we find the poor Ethiopian, the “servant of servants.” Dr. Morton remarks that, with a single exception, the Caucasian skulls were taken from the lowest and least educated class of society, and included three Hindoo skulls. Now, as the lowest class of society have generally smaller heads than the educated and influential, and as the Hindoo skulls were of seventy-five inches only in capacity, the above average is too low for the European head, and ought to be stated at not less than ninety cubic inches. We find the European brain, then, to be on an average twelve cubic inches larger, and the largest of the European brains, to be *thirty-one* cubic inches larger than the average Ethiopian brain. If we had time to enter into details, it would be easy to show the light which the principle for which we are contending throws on the path of the historian. The conquest of Peru by Pizarro, with his one hundred and sixty-four soldiers, loses much of its marvellousness to the enlightened physiologist, when he learns that these same Peruvians, with brains of the average size of seventy-three cubic inches, had to contend with Europeans, whose brains were seventeen cubic inches greater. Their immense superiority of mental resources, intellectual grasp, and nervous en-

ergy, conferred on the Europeans a power before which the Peruvians became as sheep when the wolves have entered the fold. Numbers could not avail them. But we need not go to past centuries for confirmations of our principle. We see at the present day a small nation, the law-giver of a seventh part of all the inhabitants of the earth. "She girds the globe," says the Abbé de Pradt, "with a chain of posts, disposed with art, around its circumference; thus placing every avenue under her control, and, as it were, under her key. From Heligoland to Madras, and from the Ganges to Hudson's Bay; at Jersey, at Gibraltar, at Corfu, at Malta, at the Cape of Good Hope, at St. Helena, at the Isle of France, Ceylon, Antigua, Trinidad, Jamaica, Halifax—everywhere, she is seated upon rocks, or placed upon inaccessible islands; everywhere in safety herself, everywhere menacing others."

Whence comes the activity, the energy, the mightiness, the overshadowing influences of America's father-land? Let Professor Caldwell answer for the phrenologist. "Great Britain," says he, "is peopled chiefly by Anglo-Saxons, the most highly-endowed variety of the Caucasian race. Their brains are superior in size and more perfect in figure, than the brains of any other variety; and from temperament and exercise, they are, in function, the most *powerful* at least, if not the most active. And hence the surpassing strength and grandeur at home, and the influence and sway over the other nations of the earth, of those who possess them. The vast and astonishing productions of art in Great Britain, her boundless resources of comfort and enjoyment in peace, and her unparalleled means of defence and annoyance in war, are as literally the growth of the brains of her inhabitants, as her oaks, and elms, and ash-trees are of her soil." Let us look to Asia; there we see that England has subdued a hundred and twenty millions of people, and that forty thousand of her sons retain them in subjection; one man in charge of three thousand! What shall explain this? The Hindoos were a civilized people, having a knowledge of letters and arts before Cæsar set foot upon Bri-

tain, or even the foundations of Rome were laid. How, then, shall this problem be solved? What great fact shall furnish us the key? We answer, the solution will be found in the cerebral superiority of the Anglo-Saxon, and in the superior physical activity, energy and prowess which accompanies such superiority. The Englishman has not only a better-balanced brain than the Hindoo, but a brain exceeding that of the Hindoo, in average absolute bulk, more than *fifteen* cubic inches.

Correspondence of cerebral development and mental power, is found everywhere on a broad scale, among the nations of the earth. Let these same Englishmen come into collision with people whose brains are about the same size as their own, and what is the result? They have to provide man for man, to put forth all their energies, employ all their resources, and keep their sagacity on the stretch. If they gain a victory, it is accompanied by losses over which the victors themselves might well weep. Advantages are not often permanently retained; a triumphant advance is often but the precursor of a mortifying retreat; and when they have spent their energies in vain attempts at subjugation, they pantingly agree to a cessation of hostilities, that they may take breath and recruit their exhausted strength and resources.

How fare the subtle objections of Professor Smith against the phrenological doctrine of size, when the light of these great truths is concentrated upon them? They seem to us to hurry away like thin mists from the sun's gaze.

"The function of a part, whatsoever that function may be, is always performed with *vigor proportioned to its bulk*, and the greater or less supply of aerated blood;" "we will concede *something* to the size of the head;" "between individual and individual, mere *bulk of head* is an element of *no appreciable importance*;" "intelligence will be in proportion to the *projection* of the frontal lobe," is the strangely contradictory language of Professor Smith. "Size, other things being equal, is the pleasure of power," is the uniform language of the phrenolo-

gist. Between the phrenologist and the professor, let the reader judge.

At the close of this argument in relation to size, let us caution the inquirer against an error of Cuvier, Tiedemann, and others; namely, that of taking general size of brain as the measure of *intellectual* power. Intellectual power depends on the development of the frontal lobe alone, and this may be small or large in relation to the other regions of the brain. The Hindoos, with their very small brains, have a comparatively full development of the anterior region, and they manifest much intellectual ingenuity with little force of character. Most of the North American Indians, on the contrary, with their comparatively large brains, have an overwhelming development of the basilar and posterior regions; and, with little intellectual, and feeble moral power, they have immense force of the propensities. They are almost incapable of appreciating the arts, the intellectual and moral delights of civilized man, but they are haughty, unyielding, fierce, indomitable, and blood-thirsty; they may be overpowered, but not subdued; exterminated, but not enslaved. We can merely verge on this interesting subject as an enforcement of the caution above given.

Professor Smith opposes phrenology on the ground, also, that if the influence of temperaments be admitted, the cerebral organs are unnecessary. "A reference to temperaments would seem fatal," says he; "since, if it be conceded that our mental qualities depend upon causes unconnected with the organs, and paramount to their influence, why introduce superfluous machinery? Why not dispense with the organs altogether?" What is temperament, that such language as this should be used concerning it? So far as phrenology is concerned, it signifies those conditions of the animal economy which modify the influence of size on the vigor, vivacity, and energy of the cerebral organs. To pretend, therefore, that the organs are superfluous because we have the temperaments, is a sheer absurdity. As well might it be pretended that steam-engines are

superfluous, because we know the various qualities on which their strength and efficiency depend, and the varying power of steam under various degrees of pressure. To be sure, the absurdity is not Dr. Smith's "*if it be conceded* that our mental qualities depend upon causes *unconnected* with the organs." But this, so far from being conceded, is explicitly and unconditionally denied. We contend that no influence can reach the mind except through the cerebral organs; that no mental quality is in the very slightest degree affected by any cause which does not affect one or more of these organs, *pari passu*. Leave out of view the doctrine of the brain's complexity, and all this is fully admitted by the professor himself. "I believe the brain," says he, "to be connected with the mind so far, like *cog-work* in mechanics, that movements originating as they may in the one, are *necessarily* communicated to the other." (p. 81.)

But Professor Smith further contends that the phrenological view of the brain's organization entirely excludes temperaments from consideration. His argument is, that the modifying power of the blood over size, constitutes temperament, and that the phrenologist is precluded from considering this modifying power, "because," says he, "in that case, phrenology and fact would be brought into collision; for, according to that interpretation of the word, where 'Cautiousness' is large and predominant, a man should become less timid as the play of his lungs is impeded, or as the quantity of vital fluid passing to his head diminishes; while, on the contrary, his *cowardice* should augment if more impetuous torrents, or blood more highly aerated, were driven through his *craven organization*—results, in either case, directly opposed to the truth, as every one knows."

In the first place, we remark that the function of the organ of Cautiousness is not to manifest "cowardice," and that the organization in which it is found, is not necessarily a "craven organization." Cautiousness is the quality which this organ manifests, and among those who have possessed this quality in a high degree, are some of the bravest men that the world has produced.

We remark, in the second place, that the phrenologist does "mean" that the quantity and quality of the blood are most important items in the sum of those influences to which he applies the term temperament, but that they do not of themselves constitute that sum. Nor does Professor Smith himself, in his introductory lecture, maintain this; on the contrary, he speaks of the influence of the liver, spleen, muscles, fat, skin, and other parts, often granting far more to these influences than correct observation will warrant. Thus, in speaking of the influence of the liver over mental manifestations, he assures us that one condition of this viscus renders a person "cold, cautious, calculating;" "his temper suspicious;" "he neither believes in friendship nor possesses friends." Another condition of this viscus indicates its possessor to be "the most contemptible being that inhabits the earth. He is poor, weak, mean, and malicious; devoid of every noble sentiment, of every generous feeling." Another condition is indicative of men "of strong minds and glowing imaginations." Another produces "your ordinary hypochondriac, who is tormented with a thousand ridiculous fears and fancies, which have no foundation except in his own imagination." Were such views of the influence of this viscus correct, the brain would be wrongly styled *the organ of the mind*; and the inquiry, "How's your liver?"—one of Laura's first questions to her long-lost husband Beppo—would be so far removed from the ludicrous as to constitute one of the most tender, considerate, philosophical, and important inquiries which it were possible to make.

We will now grant, for the sake of the argument, that the modifying influence of the blood is all that is meant by temperament. How, then, will stand the professor's objection? According to phrenology, says he, "where Cautiousness is large and predominant, a man should become less timid as the play of the lungs is impeded, or as the quantity of the vital fluid passing to his HEAD diminishes; while, on the contrary, his cowardice should augment if more impetuous torrents, or blood more highly aerated, were driven through his craven organ."

xation—results, in either case,” he continues, “directly opposed to the truth, as every one knows.” That is, he maintains that fear, or “timidity,” bears an inverse ratio to the quantity and aeration of the blood passing to the “head,” Let us examine his objection,

Observe that the professor does not state a proposition maintained by the phrenologists, or logically deducible from their doctrines. He confounds the organ of Cautiousness with the “HEAD”—a rather clumsy mistake! He might, perhaps, have stated the phrenologists to be bound by the proposition that “a man should become less cautious or fearful as the quantity of vital fluid passing to the *organ of Cautiousness* (not the head) diminishes; while, on the contrary, his cautiousness, fear, or desire of safety, should augment if more impetuous torrents, or blood more highly aerated, were driven (not through his craven organization, but) through his *organ of Cautiousness*.” This last proposition we might own and defend; but as it is not that of which Professor Smith asserts the falsehood, we are not called upon for a reply.

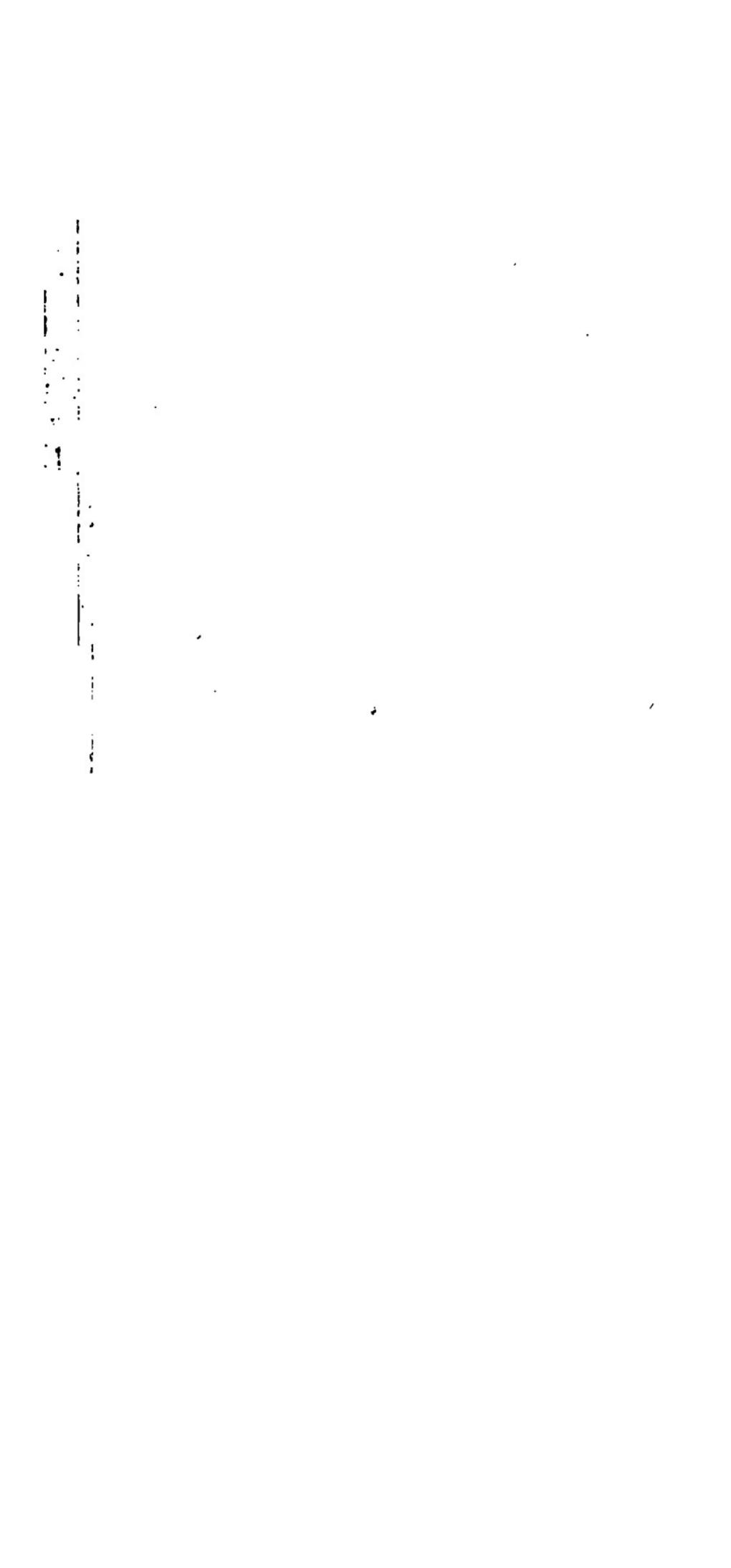
We will, however, go further than we are bound, and, for the sake of showing the want of precision in the professor’s physiological views, take up the so-called phrenological proposition nearly as the professor has stated it; and we assert that, though less definitely expressed than desirable, so far is it from being “directly opposed to the truth, as every one knows,” that it is essentially true, as every enlightened physiologist and pathologist knows. Fear is a positive mental emotion; and, like all other such emotions, is accompanied by cerebral excitement proportioned to its intensity, and this cerebral excitement is accompanied by a corresponding determination of blood to the “head.” Is proof of this needed? Look on the fear-stricken being, and say whether any one symptom indicates repose, or evinces diminished arterial or cerebral excitement. Is it the palpitating heart, or flurried pulse? Is it the intense expression, the wild, restless eye of alarm, or terror’s fixedness of gaze? Surely not. The pallid counte-

nance, perhaps? This, on the contrary, proves that the equilibrium of the circulation is broken up—that superactivity somewhere exists, and is robbing the countenance of its due proportion of blood. What aid does pathology give to the professor's objection? None; but demonstrates its erroneousness by the notable fact that death by cerebral apoplexy—death from what the professor calls the "suffocation of an organ by excessive supply of blood"—is as often the effect of excessive fear as of excessive rage. In whatever point of view we regard this objection of Professor Smith, it is discreditable to his knowledge and accuracy, and not quite so correct in argument as might be expected from a great logician, who volunteers to pronounce sentence so freely and confidently on the dialectics of the phrenologists.

We here close our review of those parts of the "Select Discourses" with which, as phrenologists, we are immediately concerned. In the introductory lecture on the "Diversities of the Human Character," and in the discourse on the "Sense of Touch," there are numerous errors and fallacies; but we leave them—our work is finished. Throughout the "Select Discourses," Professor Smith has treated phrenology as though he did it honor to notice it; and phrenologists, as though it were condescension to expose them. He announces that our science is "a freak of the imagination—a fanciful toy;" that it is "theoretically untrue, and in practice confessedly and demonstrably false;" that, whenever phrenologists "appeal to organization, fancy is evoked to furnish the facts;" and that their "dialectics are contaminated with every fault which can attach to a train of reasoning." These grave charges and sweeping assertions we have contested fully, and, we believe, fairly. When the professor has appealed to anatomy, we have met him there; when to physiology, we have met him there; when to pathology, we have met him there; when to philosophy and metaphysics, we have encountered him on his favorite grounds. And, if we err not, we have shown that, when he has obtained a triumph, it has not been

over the noble science in which we believe, but over a fanciful toy—a wind-mill antagonist of his own creation ; but that, when he has attacked phrenology itself, his facts are inconclusive or erroneous ; his reasonings fallacious ; his objections such as cannot be sustained.

In taking leave of the professor, we would express the hope that he may yet be induced to reconsider the whole subject, and to investigate for himself the groundwork of the phrenological doctrines. Should he do this with the single desire of arriving at correct conclusions, we cannot doubt the result ; and if the result be that which, in such case, we deem inevitable, the requisitions of conscience and honor are plain ; fortunately, too, they prescribe the course which even an enlightened and far-seeing expediency would suggest—the open renunciation of error. Whoever discovers that he has been assailing truth, may well regret his course, but need never be ashamed of defeat, for truth no man can conquer ; its assailant, however, may confidently reckon on a rebound which, if reparation be not made, will render his reputation a wreck, if not a mockery.



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## PART III.

A VIEW OF FACTS RELIED ON BY PHRENOLOGISTS AS PROOF THAT THE CEREBELLUM IS THE SEAT OF THE REPRODUCTIVE INSTINCT.

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## SPECIAL PREFACE.

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A TRANSLATION of the admirable essay of Gall on the "Functions of the Cerebellum," is not contained in the American edition of his works. Indeed, none appeared in the English language until that published by Mr. Combe, in 1838, in connection with the translation of the observations of Dr. Vimont on the same subject, contained in his "*Traité de Phrenologie Humaine et Comparée*"; and of those of Broussais, contained in his "*Cours de Phrenologie*." These translations have not been republished in this country; so that, except a brief article in the "Lexington Journal of Medicine and the Associate Sciences;" eight pages of observations in the "Annals of Phrenology" for 1834; a brief article in the 46th volume of the "American Journal of Medical Sciences;" a few cases in Dr. Brigham's "Inquiries Concerning the Diseases and Functions of the Brain," and a few others scattered through medical publications, nothing of importance has yet been placed before the American phrenologist and medical practitioner, on the connection between the cerebellum and the amative instinct. The following article will partially supply the desideratum. It contains a synopsis and classification of cases recorded by Gall, Spurzheim, Vimont, Broussais, Larrey, Georget, Serres, Andral, Combe, Fisher, Stokes, and others, to whose works the reader is referred for more minute details.



## A DEFENCE OF PHRENOLOGY.

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### PART III.

#### A VIEW OF FACTS RELIED ON BY PHRENOLOGISTS AS PROOF THAT THE CEREBELLUM IS THE SEAT OF THE REPRODUCTIVE INSTINCT.

"I AM acquainted with no fact which tends to evince any especial connection between the cerebellum and the sexual feeling." These words of Professor Smith (*Select Discourses*, p. 112,) are susceptible of being interpreted as an acknowledgement of the professor's ignorance of the subject, and his consequent incompetency to decide; or as an intimation that he has exhausted the inquiry, that he is familiar with all that is known relating to the matter, and that there exists not a single fact which tends to evince such connection.

But, however ambiguous these words might be, if isolated, of their meaning there can be no doubt, when taken in connection with the rest of the "*Select Discourses*." The professor doubtless intends to convey the notion that he has investigated the whole subject, and that the reader may, on his authority, safely rest satisfied that the phrenologists have no foundation for their belief. I will prove that he is utterly ignorant of the merits of the question he undertakes so authoritatively to decide.

#### THE INSTINCT OF AMATIVENESS HAS ITS SEAT IN THE BRAIN.

The external organs of generation are often treated as the seat of sexual desire; but, independently of the phrenological

doctrine, the proofs that it is an encephalic affection are exceedingly numerous. Many of these are enumerated by Gall, Georget, Broussais, and others. Young children often feel the solicitations of the propensity, and give themselves up to it long before the seminal secretion is established ; and in old libertines, desire often continues to torment and consume after secretion has ceased, and the external organs have become inert.\* Eunuchs, who have been deprived of the secreting organs after puberty, often feel the solicitations of the amative impulse with considerable force. This fact seems to have been familiar to the ancients, as appears from the terms in which Juvenal castigates the lubricity of the Roman ladies. Dreams excite the reproductive organs ; and lascivious conversation, books, plays, or pictures, awaken sexual feeling. On the contrary, excessive grief or study seem, for a time, to extinguish it.

Pathological cases, recorded before the time of Gall, show that loss of virile power had been noticed as the result of encephalic injury.

#### CASE I.

Hildanus relates that, in the year 1630, a consistory court was held at Berne, at which he and several other physicians assisted, in order to examine Michael Tutzler, aged 36, for impotency, of which he was accused by his wife. Nothing external was defective ; but he confessed that, eight years previously, he had received a severe blow on his head, since which “*confitibatur penum erigi non posse.*” Upon the report being made to the court by the medical committee, a divorce was granted.—*Ana of Medical Literature*, London, 1825, vol. iii., p. 105.

There are some cases and observations, indeed, which show that, before the discoveries of Gall, some connection had been observed between the region of the cerebellum and the amative impulse.

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\* Montaigne, in his Essays, (b. ii., ch. 30,) says he saw a herdsman in Medoc who had no sign of genital parts; but he was bearded, had desire, and conversed the society of women.

## CASE II.

In the “*Memoirs de Brantome*,” it is stated that M. de Burie never had any children; and that his wife, who was *naïve* and free, said that it was no fault of his or hers, but that her husband had received in the wars a blow on the nape of the neck, which had rendered him partially impotent.—*London, 1739, vol. ii., p. 182.*

Hippocrates, speaking of the Scythian custom of opening a vein behind the ear in sickness, says he considers the practice hurtful, “because behind the ears there are veins, the section of which produces impotency; and,” he remarks, “it is precisely in those, I believe, that they bleed themselves; for, when they approached their wives, they found themselves impotent.” (*Hipp. de Aère Locis et Aquis, No. 20, edit. a Foës.*) Baron Larrey found this remark confirmed by observations on the Egyptians. They frequently apply cupping-glasses to the nape; and he is convinced, by numerous instances, that these bleedings impair the virile power.—*Gall, vol. iii., p. 191.\**

Appolonius of Rhodes, in speaking of the passionate love of Medea, says: “The fire which devours her, attacks all her nerves, and makes itself felt even *behind the head*, in that spot where pain is most poignant, when an extreme fervor seizes the senses.”—*Ibid., p. 169.*

I shall now proceed to adduce such evidence as we deem sufficient to establish the doctrine of Gall, first giving a brief history of the discovery of the seat of the organ of Amativeness, and practical directions for observing its size.

## DISCOVERY THAT THE CEREBELLUM IS THE ORGAN OF AMATIVENESS.

## CASE III.

A young widow, soon after the death of her husband, was often attacked by convulsions, which were preceded by a very disagreeable heat and tension in the nape of her neck. During

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\* The references I make to the works of Gall, are to the Boston edition, published by Marsh, Capen & Lyon, though the work I have chiefly used is Mr. Combe's translation.

these attacks, she would fall to the ground in a state of rigidity, the nape being drawn strongly backwards. These convulsions never failed to terminate by convulsive voluptuousness.

During the crises, Dr. Gall sometimes supported her, with the palm of his hand on the nape of the neck, and he remarked great heat of that region, and an arched protuberance of considerable size. The lady afterwards acknowledged that, from the close of childhood, she had felt it impossible to resist the impulses of an imperious necessity, and that when her feelings were most urgent, the tension and sensation of heat in the nape were the most disagreeable.—*Gall*, vol. iii., p. 155.

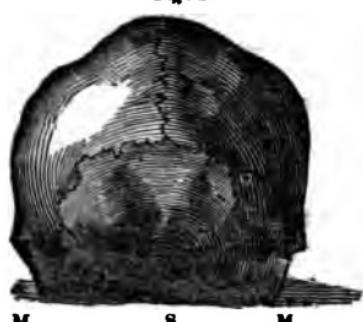
Investigating, as Gall was, the physiology of the brain, his attention was by this incident strongly directed to the functions of the cerebellum, and he commenced that extensive series of observations by which he finally established this portion of the encephalon to be the organ of the reproductive instinct.

#### PRACTICAL DIRECTIONS FOR OBSERVING THE SIZE OF THE CEREBELLUM.

The following directions for observing the size of the cerebellum are those given by Mr. Combe, in his translation of Gall and others, before alluded to. They are clear and simple.

The cerebellum is situated between the mastoid processes,

FIG. 1.



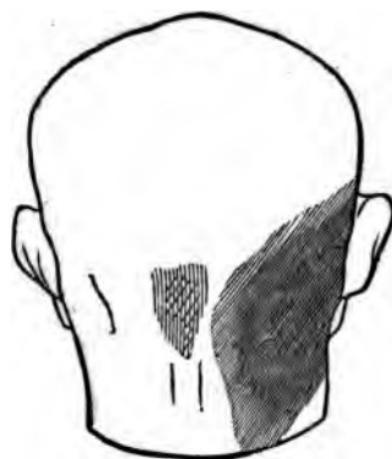
M. M., of fig. 1, lying immediately behind, and a little below, the external opening of the ear, on each side, and the projecting point or process, S., in the middle of the transverse ridge of the occipital bone. The size of the cerebellum is indicated by the extension of the inferior surface of the occipital bone, backwards and downwards; or by the thickness of the neck, at those points between the ears. The difference between a moderate

and a large development, will be understood by observing the thickness of the neck, in figures 2 and 3.

Fig. 2.



Fig. 3.



Cerebellum moderate.

Cerebellum large.

In some individuals, the lobes of the cerebellum descend or droop, increasing the convexity of the occipital bone, rather than its expansion, between the ears. In figure 4, O. represents a large development, downwards, of that part of the base of the occipital bone, commonly called the posterior occipital swelling, or fossa. In such cases the projection may be felt during life by the hand, if firmly pressed on the neck.

Fig. 4.

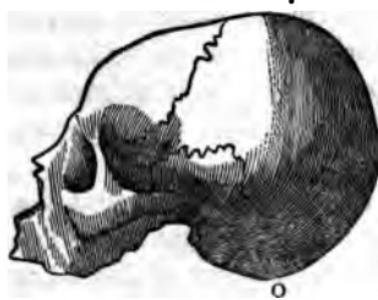
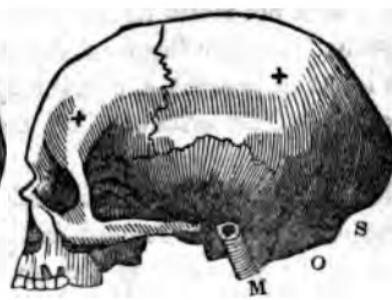


Fig. 5.



In the skull, (fig. 5,) the distance between M., the mastoid process, and S., the spine of the transverse ridge of the occi-

pital bone, is large, although the occipital swellings, O., do not droop as in the preceding skull. In both *figures 4* and *5*, the cerebellum is large, but smaller in *5*. In the former, however, the large size is indicated by the drooping of the bone; in the latter, by the large circumference, backwards, from ear to ear, or by a thick neck. The external muscles of the neck are attached to the skull in the line of this circumference.

Fig. 6.



In this skull (*fig. 6*) the cerebellum is small; and it will be seen that the base of the occipital bone extends only a short distance backwards from the mastoid process, while the occipital swelling does not descend, as in *fig. 4*.

#### THE ENERGY OF THE AMATIVE PROPENSITY BEARS A CONSTANT RELATION TO THE DEVELOPMENT OF THE CEREBELLUM.

The power of the instinct of propagation increases, and the cerebellum becomes developed with equal pace. In new-born infants, the cerebellum is the least developed of all the cerebral parts; its proportion to the brain being from as 1 to 9 to as 1 to 20, rarely the former. In the adult brain, on the contrary, it is in relation to the brain as 1 to 5, 6 or 7. At the age of puberty, there is a more than usual increase in its size, but it does not attain its full development till manhood, and its nervous fibres are those of the whole encephalon, which are the latest to present a distinct appearance. It is universally known, that the sexual feeling develops itself in a corresponding order of progression.

It will probably be conceded that, throughout nature, the Love of Young is strongest in the female, and the instinct of propagation strongest in the male. In support of this latter proposition, it may be remarked, that the female retreats and the male pursues; that the female of many animals, as sows,

bitches, mares and cows, are limited, in the manifestation of this propensity, to certain seasons of the year, while the males are always disposed to love. Even in those animals which live in a state of marriage for life, as foxes, martens, and the greater part of birds, males are more ardent, and more addicted to infidelities than females. Hence arises among these animals perpetual jealousies and combats. In our own species, also, says Gall, man is more strongly excited to the pleasures of love than woman. Our social institutions testify the abuse in which man indulges, and bear the stamp of his jealous propensity to sexual pleasure. In exact accordance with this, it is found that from the shrew-mouse to the elephant, that portion of the brain called by the phrenologists the organ of the Love of Young, is largest in the female, whereas the cerebellum is largest in the male; this difference may be observed in the new-born child, and by it, male and female brains or skulls may, in general, be readily distinguished. The distance between the mastoid processes is generally greatest in the male, and the nape most protuberant. This may be readily observed in man. In many of the lower animals, as the male cat, the ram, the bull and the stallion, it is very striking. There are, of course, some females, in whom the sexual feeling is stronger than in some males, and some females in whom the cerebellum is more developed than in some males; but this no more invalidates the general proposition than the fact, that some women are taller than some men, disproves that men, in general, are taller than women.

In animals of the same sex, the propensity to love is found to correspond to the size of the cerebellum. At Vienna, says Gall, the pigeon-fanciers know that the male pigeons which have the strongest napes, are the most ardent; and they make use of this knowledge to obtain possession of their neighbors' females; for, on depriving a male with a strong nape of his mate, he will make excursions to other pigeon-houses, seduce a female, and bring her to his own home. These men know empirically the relation between the development of the nape,

and the strength of the reproductive instinct, though in ignorance of the true cause of either.

The portraits of Charles XII. of Sweden, of Newton, and of Kant, show—and certainly without any intention on the part of the artists—that their necks were small, and the cerebellum, consequently, little developed. Saint Thomas à Kempis, in whom the same characteristic appears, is represented as furnished with a firebrand, in order to drive away a young woman full of beauty and attractions. These are the men whom nature devotes to celibacy. Compare these portraits with those of Piron, Mirabeau, Nicholas Chorier, Arétin, Francis I., or the bust of Epicurus, and the great difference, in the development of this region, will be apparent.—*Gall*, vol. iii., p. 167-8.

#### CASE IV.

In Vienna, a devout and superstitious female fortune-teller, although advanced in life, always maintained two lovers. Gall gives a plate of her skull; it is small and spherical, but the occipital swellings are very large, rounded, and prominent towards the base. The same conformation of the occipital swellings appeared in the skull of a woman who was confined in the house of correction at Grätz, in Styria, and who formerly followed the armies as a prostitute.—*Ibid.*, p. 167.

#### CASE V.

Baron Larrey called the attention of Gall to a soldier, who habitually manifested a great antipathy to women. In him the cerebellum was very small; it had absolutely stopped short. Dr. Spurzheim saw a similar case in England—*Ibid.*, p. 166.

#### CASE VI.

A teacher of languages, who, in other respects, lived a very regular life, assured Gall that he could never satisfy his amative feeling. In his skull, of which Gall gives a plate, the region of the cerebellum descends below the external opening of the

or an inch more than in the skull of the chaste abbé mentioned in the succeeding case.—*Ibid.*, p. 168.

#### CASE VII.

A French abbé, resident at Vienna, was passionately fond of dress and society, and yet of exemplary continence, and singular deservedness towards women. He died, and Gall preserved his skull; the occipital swellings are so flat, that the skull appears as if the inferior portion of the occipital bone had been cut off. A plate of this skull is given in Gall's quarto work.—*Ibid.*, p. 166.

#### CASE VIII.

In a physician of eminence, who, in a very short time, had sent three young and robust wives to the grave, and who, at early fifty years of age, kept four mistresses, the cerebellum was very greatly developed.—*Ibid.*, p. 165.

#### CASE IX.

A distinguished physician of Vienna showed a marked antipathy to women, a feeling which he attributed to his love of solitude. He died of pulmonary consumption; the cerebrum was found to be very large, but the cerebellum very small. The distance between the mastoid processes was scarcely three inches; the occipital swellings, instead of being convex, were in some parts flat, in others, depressed. Gall, in his large work, gives a plate of this skull.—*Ibid.*, p. 166.

#### CASE X.

At Munich, Gall saw a boy, of fifteen years of age, who, from his seventh year, had desired to abuse his sister, and had attempted, but unsuccessfully, to strangle her because she resisted his propensity. It was necessary to keep girls and women strictly removed from him. His cerebellum was excessively developed.—*Ibid.*, p. 212.

#### CASE XI.

Gall knew a lady who, at no period of her life, had felt amative desires;—who could not comprehend how a man could

inspire a woman with any feelings different from those excited in her by a child or another woman, and who never yielded to the embraces of her husband but from a sense of duty. She possessed distinguished talents, and a large and beautiful head, like that of a man, except that the cerebellum was very small.—*Ibid.*, p. 159—167.

#### CASE XII.

Dr. Gall pointed out the excessive development of the cerebellum in some men confined in a house of correction in Holland, whose organization was otherwise favorable. They were in the decline of life, and yet acknowledged their incapacity to resist the impetuosity of the propensity. They begged not to be set free, as they felt that they should relapse into crime.—*Ibid.*, p. 169.

#### CASE XIII.

The savage of Aveyron, at sixteen years of age, had not manifested the least inclination for women, and his cerebellum was very feebly developed.—*Ibid.*, p. 211.

#### CASE XIV.

At Paris, M. Savary, then minister of police, and M. de Bourienne, took Gall to see a boy, sixteen years of age, who refused to learn anything, and whose society was extremely pernicious to his fellow scholars, on account of his gross manifestation of sexual desire. Gall drew attention to the smallness of his forehead, the great prominence of his occipital swellings, and the thickness of the nape of his neck.—*Ibid.*, p. 212.

#### CASE XV.

In most criminals, the organ of Amativeness is largely developed; but in Lacenaire, who was executed at Paris, in 1836, the cerebellum was of very moderate size, and he had little inclination for women. His dissipation consisted in excess.—*Phrenological Journal*, vol. x., p. 397; *Hospitaux*, 1 Mars, 1836.

## CASE XVI.

At Salisburg, Professor Hartenkeil showed Gall a cretin, above twenty years of age, who had never manifested, in any way, the instinct of propagation, although he was well made, and enjoyed perfect health. In him the cerebellum was very small.

## CASE XVII.

In another ward, the same professor showed Gall a woman, a wretched cripple, so ill-formed that, instead of walking, she trailed herself on the ground, who indulged in sexual solicitations, and the most lascivious gestures. Even in solitude, all her movements were directed towards satisfying her lubricity. Her intellectual region was of the most inferior character, but her cerebellum was very greatly developed.—*Gall*, vol. iii., p. 211.

## CASE XVIII.

Dr. John Macintosh related to Mr. Combe that he had attended the *post-mortem* examination of a woman, of middle age, in Lieth, who was reported to him as having led a most dissipated life, associating frequently, in a state of intoxication, with the most abandoned characters. Being struck with the small size of the cerebellum, and believing her to have been a common prostitute, he thought he had found a fact hostile to phrenology, and resolved to ascertain her history correctly. He questioned her brother, a respectable man, who had been greatly distressed by her conduct, who assured the doctor that prostitution was almost the only vice of which his sister was entirely free; and that it had often been remarked as singular, that, even when under the influence of intoxication, and living among the most abandoned women, she repelled the advances of men. Dr. Macintosh returned to the examination of the body, and found the hymen healthy and unbroken.—*Combe on the Cerebellum*, p. 160.

## CASE XIX.

Gall observed, at Paris, a boy, of five years of age, who manifested strong sexual desire. The nape of his neck was

large, rounded, and strong, although the rest of his head had scarcely attained the size common at his age. Moreover, in every other respect, he was a child.—*Gall*, vol. iii., p. 164.

#### CASE XX.

Gall saw the boy of a mulatto, at Paris, under three years of age, in whom the cerebellum was developed in an extraordinary degree, while the remaining parts of his head were not larger than is usual at that age. His genital organs were not more than ordinarily developed, yet he attacked girls, and even women, with audacity. He was surrounded by girls, who permitted him to satisfy his desires as an amusement to themselves; and he died of pulmonary consumption, before attaining his fourth year.—*Ibid.*, p. 164.

#### CASE XXI.

Gall found the cerebellum developed to an extraordinary degree in a boy, ten years of age, who was detained in the house of correction at Liepzig, for having violated a girl.—*Ibid.*, p. 165.

#### CASE XXII.

Dr. Andrew Combe mentions a boy, six years old, in whom the cerebellum was very large, and whose constitution was ruined by secret vice.—*Dr. Combe on Mental Derangement*, p. 155.

#### CASE XXIII.

Meckel's Archives of Physiology for 1823, detail the case of a boy, two years of age, in whom a premature development of the genital organs, and of the occipital region, was contemporaneous.

#### CASE XXIV.

In May, 1822, Mr. Deville, of London, took a cast of the head of a boy, three years and two months old, in whom the muscular system and the cerebellum were greatly developed; this child had erections and emissions during sleep.—*Combe on the Cerebellum*, p. 150.

Cases of sexual precocity, similar to the above, are related by many writers, both ancient and modern, who, supposing it to be an affection of the genital organs, took no notice of the size or condition of the cerebellum. Pliny mentions a boy, three years of age, who had reached puberty. An individual was seen by Craterus, the brother of Antigonus, who, in seven years, was an infant, a father, and a corpse. Boiset, in the *Journal des Scavans* for 1688, gives the case of a boy, who, at three years of age, arrived at puberty. In the Philosophical Transactions for 1745, is a case of puberty at the age of two years and eleven months. Sir Astley Cooper records a case in which the menses appeared at between three and four years of age, (*Med. Chir. Trans.*, vol. iv.) A similar case is mentioned in *Med. Phys. Journal*, 1810. Another case is mentioned, in which, at two years of age, the menses appeared. And Dr. Rowlett, of Kentucky, mentions a case in which the menstrual function was established at the age of twelve months, and appeared regularly until pregnancy, which occurred soon after the girl was nine years of age, (*Transylvania Journal of Medicine*, October, 1834.) See *Good's Study of Medicine*, New-York, 1836, vol. ii., p. 462.

#### CASE XXV

The Edinburgh Phrenological Society possesses the cast of K., in whom the cerebellum is very largely developed, in combination with large organs of the moral sentiments. When this cast was taken, K. was living with his fifth wife. In two cases, less than six weeks, and in no case more than four months, intervened between the death of one of his wives and his marriage with the next. The development of his moral organs accounts for his preferring to gratify Amativeness in wedlock, rather than by illicit indulgence.—*Ibid.*, p. 150.

#### CASE XXVI.

The Rev. Dr. J., a clergyman of the Church of Scotland, presented the same combination as K. He was repeatedly married, and the extremely short intervals which elapsed.

tween the loss of one wife and his union with another, brought some degree of scandal on his character. He stated, confidentially, to a highly-respected member of the church, that the urgency of nature compelled him to resort to these precipitate alliances, as the least of two evils.—*Ibid.*, p. 150.

#### CASE XXVII.

The cast of Mitchell, who was executed for murdering a young woman whom he had seduced, shows an enormous development of the cerebellum and Destructiveness.—*Ibid.*, p. 151.

#### CASE XXVIII.

In the *Phrenological Journal*, vol. v., p. 636, is the account of a *post-mortem* examination at the Royal Infirmary. The case was that of a woman who had been abandoned by her family on account of her sexual aberrations. The cerebellum was stated by Professor C. to be, not only proportionally, but absolutely greater, than any they had met with in the course of their investigations.

#### CASE XXIX

The cast of an uneducated man was sent to Mr. James Simpson, for a phrenological report on the dispositions which it indicated. Mr. Simpson, in his statement, remarked : “The animal endowment is excessive ; and, although the intellectual is very considerable, the moral is sadly deficient. Amativeness is very great ; and it is scarcely to be expected that it has been restrained from coarse and selfish indulgence.” The gentleman who had sent the cast furnished remarks on Mr. Simpson’s inferences, in which he says : “With regard to his amative propensity, every body acquainted with him knows it is very great ; he is, in fact, the slave of that feeling, and never speaks of woman except in an animal point of view.”—*Phrenological Journal*, vol. viii., p. 407.

#### CASE XXX.

An individual was born at Berlin, or Potsdam, in 1780, who was first baptized as a female child, by name Marie Dorothé

Derier, and afterwards as a male child, by the name of Charles. In this hermaphrodite, the signs of each sex were so equally balanced, that it rendered correct judgment, as to the preponderance of either, difficult. When Charles was twenty-five years of age, Gall saw him, and predicted, from the feebleness of sexual desire in him, that the cerebellum would be found very small. In March, 1835, Charles died, and M. Mayer examined every part of the body very minutely. He mentions, as "a fact worthy of special notice, the very slight development of the hemispheres of the cerebellum."—*Gazette Medicale of Paris*, No. 39; *Lancet*, Oct. 5th, 1836; *Medical Examiner*, April 10th, 1841.

## CASE XXXI.

Dr. John D. Fisher, of Boston, reports the following case:—D. O. died, aged forty-five. Stature above the common size; body well formed and of good proportions; limbs plump and round. From his birth, the testicles absent; voice feminine; never had a beard. When about twenty-one years of age, he became associated with a number of young men, fond of pleasure and frolic, and, by degrees, he became addicted to inebriation; but, among the many scenes of dissipation in which he participated, he was never known to visit a house of ill-fame, or to address any of the numerous ladies of pleasure who walked the street. In short, he was, as his mother expressed herself, "a virgin in feeling and conduct to the day of his death."

His history, and the absence of the testes, brought to mind the doctrines of phrenology in relation to the functions of the cerebellum, and the *post-mortem* examination was extended to the cranium. The head was large, twenty-two inches in circumference, and sixteen inches from the orifice of one ear to the orifice of the other, over the highest point of the head. The brain was healthy, and of large size; but the relative proportion of the cerebrum to the cerebellum, was strikingly unnatural—the latter being, comparatively, exceedingly small. Together, they weighed  $5\frac{1}{2}$  ounces, avoirdupois—the cerebrum, 47 ounces; the cerebellum,  $4\frac{1}{2}$ ; being as  $1\frac{1}{4}$  to 1—

the cerebellum being just the same weight as that of a female child, six years old, examined at the same time.—*Am. Journal of Medical Sciences*, Feb., 1839—Article VII.

#### CASE XXXII.

A case recorded by Baron Larrey, shows the connection between the cerebellum and genital organs. Baptiste Vallet, forty years of age, died, after suffering severely from hemiplegia, the result of a fall. On the *post-mortem* examination, the baron was struck with astonishment at the small size of the posterior fossæ, those which contain the cerebellum; this led them to examine the cerebellum. It was found to be not more than half the usual bulk; and, on examining the testicles, they were found of the size of a kidney-bean, and possessing scarcely any consistence. The penis was only six lines in length.—*Gall*, vol. iii., p. 197.

#### CASE XXXIII.

Smithers, the incendiary, had an enormous development of the cerebellum, and he was extremely addicted to lust. It is well known that he kept two or three women, though a married man.—*Lancet*, Jan. 7th, 1833, p. 498.

#### CASE XXXIV.

In Dr. Gall, the cerebellum was very large; in Dr. Spurzheim, of moderate size, only. The manifestation of the feeling was in strict accordance with the development of the organ in each of these philosophers.

The size of the cerebellum seems to vary, in some animals, at different seasons of the year. Gall collected many heads of birds at the beginning of spring, the season of their most ardent loves; and others at the commencement of winter, at which the feelings relating to propagation are commonly dormant. In the heads collected in spring, the cerebellum is larger and more turgescent; and in the skulls, the latter corresponds to it was manifestly larger and

more rounded than in those collected in winter.—*Gall*, vol. iii., p. 177.

Vimont says that in animals which multiply rapidly, and propagate several times a year, the cerebellum is, in general, very largely developed; as in the cat, the hare, the squirrel, the guinea-pig, and the mole. In the *rodentia*, especially, which is that class of animals that multiplies most rapidly, the cerebellum is found largely developed.—*Vimont on Human and Comparative Phrenology*, vol. ii., p. 233; *Combe on the Cerebellum*, p. 126.

Vimont examined the brains of four cocks, two excessively ardent, and two very little so. The cerebellum in one of the latter, was one-third less than that of either of the former. In the other, the size was not much less, but it was of singular softness.—*Ibid.*

"Among more than two hundred skulls of cats in my collection," says Vimont, "I have examined the brains of upwards of thirty, and I have constantly found, in very ardent females, a very voluminous cerebellum."—*Ibid.*

Mr. J. L. Levison states, as the result of his observations on birds, that, in the common crow, the cerebellum is, in relation to the cerebrum, as 1 to 10 or 12; in the woodpecker, as 1 to 9; in the black or brown grouse, as 1 to 6 or 7; in the robin, as 1 to 6; in the Canary and domestic pigeon, as 1 to 5. These proportions, he thinks, correspond with the strength of the amorous feeling in the different birds.—*Phren. Jour.*, vol. xiv., p. 61.

The celebrated Broussais says, "Gall has the honor of having established the proposition, as a positive fact, that the cerebellum is the primary organ of generation. In demonstrating this point, he proceeded by the method of direct or empirical observation—that is to say, by establishing, by numerous facts, that persons in whom the posterior-inferior part of the head is much developed, and who have the cerebellum large, are more inclined to the generative act, than those whose heads present a different development.

"These observations of Dr. Gall have been subsequently

confirmed by all inquirers who have studied the subject with due attention, and, especially, with impartiality ; and phrenologists possess considerable collections of skulls and casts which support them. The evidence is so conclusive, that the generative function is ascribed to the cerebellum ; but without being able to affirm that it executes no other functions.

" Nevertheless, some individuals, who are opposed to phrenology, maintain that the generative propensity has been observed very powerful in persons who had scarcely any cerebellum, or whose cerebellum had been destroyed, or in whom the rudiments only existed. I do not know to what extent such alleged facts merit our confidence. For my own part, I declare that they will inspire me with none, until they have been verified by phrenologists. It is necessary to be on one's guard against facts which are attested only by the adversaries of a science, because it is well known to what extent the spirit of speculation may lead to falsehood in assertion. We exhibit collections of positive facts ; and we daily repeat our observations. If some exceptions exist, we do not deny them, but set them down as points to be explained. It is not sufficient to show us merely single cases ; our opponents must make collections in contradiction to ours, and the histories of the individuals must be completely authentic. This has not been done, and we are justified in doubting the truth of these assertions. For my own part, whenever, since I knew the system of Gall, I have been consulted by individuals who complained of the inactivity or infidelity of the generative organs, I have immediately directed my attention to the cerebellum, and I have always found it very depressed. When children have been presented to me, who, before the age of puberty, have manifested an extraordinary propensity towards the sexual act, and who have divined the process supplementary to it, I have always found the cerebellum very largely developed. This has never failed. I defy the opponents to produce pathological facts which can be weighed in the balance against those which I possess of this description.

"Dr. Gall has been so bold as to hazard the statement that the development of the genital organs exercises no influence on their activity; that they may be inert, though very much developed, if the cerebellum be very little so. At first, I refused to admit the correctness of this fact; but experience has proved to me that it is true. I have ascertained the inertness of the genital organs in man, although very considerably developed; but the cerebellum was depressed. I have ascertained, also, the contrary, in opposite conditions, in such manner that I can no longer doubt. I assure you that it has not been from rashness, nor without reflection and numerous observations, that I have ventured to take up the defence of phrenology. I have multiplied observations, as far as it has been possible for me to do so, before entering the lists of its defenders.

\* \* \* \* "I shall now exhibit some specimens of the cerebellum. In this head, (showing a cast,) there is an enormous development of it. The distance between the two ears is prodigious, even disgusting and repulsive, from the resemblance which it bears to a brute. This man was guilty of several crimes against chastity in England, each more abominable than another, which forced him to go into exile. You will observe, also, that those parts at the sides of the head, where the selfish propensities are situated, surpass in development all other regions of the encephalon, and greatly exceed the intellectual organs in size. No controlling power opposed the action of the organs which produced his crimes. You have here (showing another cast) examples of the cerebellum much developed, in men who possessed distinguished intellectual faculties, with elevated sentiments; and their high reputation proves that the generative instinct never led them into reprehensible actions. Here, again, is the head of a man who was passionately devoted to natural history, and curious in collections. He was very fond of women. You observe that the cerebellum is very much developed; but the higher faculties are very powerful—they were cultivated, and the honorable *recollections* which the *savant* has left behind him, show

the organ of generation did not reign despotically over his conduct. The same observation applies to the head of Gall, and to many others, which it is unnecessary to present.

"Here, again, is the head of Pigault-Lebrun, whose romances partake largely of the erotic quality; but, after all, are not gross. You see in this other head the perceptive organs well developed, much Self-Esteem and love of approbation; in a word, organs capable of guiding the action of the cerebellum. I wish you always to study the organs in this manner—I mean in their mutual relations. I could greatly multiply these observations; but, as we are obliged to take our examples from persons who are well known, to inspire the greatest confidence, one feels a delicacy in bringing too many forward.

"I shall now show you several examples of an opposite description. This head is that of a mathematician, who felt aversion to the sex, and was never married. He has the reputation of having remained in the virgin state. Here is another whose condition was precisely the same. You may easily conclude that their actions were dictated by those regions which you perceive to be predominant—the anterior and superior, and not by the posterior region, the depression of which is strikingly conspicuous.

"I here show you the head of Bontillier, a brigand. He was abandoned, from the first, to all sorts of vices, and at last degraded by the crime of parricide. You observe the enormous development of the posterior and lateral regions, and no adequate power of control in the anterior lobe. He was, besides, uneducated. There is always a deficiency in the development of the controlling organs in those men who have been guilty of disgraceful crimes in relation to the cerebellum."—*Brous-sais' Cours de Phrénologie*, 1836, p. 164, &c.; *Combe on the Cerebellum*, p. 134, &c.

Mr. Combe says that he has private notes of the development of the cerebellum, as observed by himself, in more than one hundred and fifty individuals, of both sexes, and in all persons with whose natural dispositions he was ac-

quainted; and he remarks that, although restrained, by the respect due to confidential communications, from publishing them, he has no hesitation in declaring that they have produced in his mind the most insuperable conviction that the cerebellum manifests the amative propensity.—*Combe on the Cerebellum*, p. 171.

In closing this branch of my case, I beg leave to add that my own conviction of the cerebellum being the organ of Amativeness, rests on numerous personal observations, many of which possess considerable interest; but I shall not here enter upon their consideration, firstly, because they do not differ much from many of the preceding, and would, therefore, be merely cumulative in their character; and, secondly, because I prefer, in a work of this nature, to confine the evidence to such facts as have already been published.

#### FACTS DEEMED HOSTILE TO THE PHRENOLOGICAL DOCTRINE IN RELATION TO THE FUNCTION OF THE CEREBELLUM.

Professor Smith says that he is acquainted with "no fact which tends to evince any especial connection between the cerebellum and sexual feelings." Others, however, have been so fortunate as to meet with facts, incompatible, as they think, with this doctrine.

#### CASE XXXV.

In Magendie's *Journal de Physiologie* for June, 1831, is a case, communicated by M. COMBETTE, resident in the hospital of St. Anthony. Alexandrine Labrosse was the daughter of a man of robust constitution, but of a woman weak, unhealthy, and accustomed to excesses of every description. The child was puny, slow of growth, and of weak intellect. At five years of age, she could not stand alone; at nine years of age, she was still weak, very sickly, and subject to glandular enlargements, and other cachetic affections. Her nurse informed M. Miquel that she kept her hands constantly applied over the *genital parts*. She died on the 25th March, 1831, at the Hs

*pital des Orphelins*; and M. Combette was then positively informed that she had been addicted to masturbation.

On the *post-mortem* examination, the finger could be readily introduced into the vagina; the hymen did not exist; the labia were of a lively red color, and bore the appearance of having been frequently agitated. The coverings of the cerebellum having been divided, a large quantity of serum was discharged, filling the occipital fossæ. In place of the cerebellum, there was a gelatinous membrane, of a semicircular form, attached to the *medulla oblongata* by two membranous and gelatinous peduncles; near these were found two small isolated masses, about the size of a pea. On the posterior and inferior side of the *tuberculi quadrigemina*, was the appearance of erosion. The vertebral arteries existed, but the reporter did not notice their distribution.

The above case, by a singular perversion of reasoning, has been quoted as subversive of phrenology. Here, it is said, is a case in which the sexual instinct was manifested in the absence of the cerebellum, therefore the cerebellum cannot be the organ of that instinct. I admit the soundness of the conclusion, if the premises be correct; for I am not prepared to assent to the doctrine of Dr. Stokes, that there may be a metastasis, or transference of function, from one cerebral organ to another. But in this case, the premises are quite untenable; for, though the report is not very satisfactory in the details, there is enough to show that the cerebellum had existed; that remains of it were present at death; that sub-inflammatory excitement had prevailed, and had gradually resolved the cerebellum into the pathological products which the report describes. During this sub-acute inflammatory action, what could be more in accordance with pathological laws than that the function of the irritated and diseased organ should be abnormally manifested?

#### CASE XXXVI.

-- tendie, with even less reason, adduces against the phrenological doctrine a case of high manifestation of the sexual

propensity in a girl, twelve years of age, who abandoned herself to masturbation, of which she was guilty many times a day, in the most open and undisguised manner, and who filled her parents with horror by the narration of her nocturnal excesses. After death, the cerebellum was found atrophied, and covered with a purulent effusion. "In this case," says Magendie, "the cerebellum is but moderately developed—a fact which is in contradiction of the doctrine of Gall, who placed, as you know, the seat of amativeness in that organ; now the present subject, affected with this passion, or instinct, in a very high degree, should have presented a corresponding development in that part of the nervous system in which Gall supposed the instinct to reside. The only remarkable circumstance connected with this portion of the head, is the *excessive thickness of the skull*, where it covers the cerebellum. I am far from wishing to deny the possibility of any relation existing between the cerebellum and the generative system; but, on the other hand, I cannot prevent myself from thinking that such relation is anything but constant, when I find, in so many cases, high irritation of the genital apparatus coinciding with atrophy, or more or less destruction of the cerebellum."—*Lancet*, June 24, 1837, p. 464; *Report of Magendie's Twenty-second Lecture on the Physiology of the Nervous System*.

In this case, the cerebellum was "moderately" developed at the time of death, although it had then undergone considerable atrophy, as is indicated by the "excessive thickness" of the skull over this organ. In atrophy of the brain, the skull usually shrinks in both its tables, and probably did so in the above instance; but, leaving this out of view, it must be conceded that the difference in bulk between occipital swellings of average and of "excessive" thickness, which may fairly be taken as the least measure of the atrophy undergone, would alone raise a cerebellum from a moderate to an immoderate size. From the case itself, therefore, we may fairly infer that, before the inception of morbid action, and when the manifes-

tations of the sexual instinct began to be excessive, the cerebellum of this girl was amply, if not greatly developed.

But the case before us is one of disease, and this circumstance alone takes it out of the rule by which Magendie would judge it; for the moment disease supervenes, pathological principles come into operation, and must be taken into the account. And what law of the pathology of the nervous system is better established, than that organic irritation is accompanied by disturbance, and generally by exaltation of function? Apply this principle to the above case. Disease attacks the cerebellum so severely as to occasion great diminution of its bulk and the effusion of purulent matter, and continues so long as to give time for the skull to become excessively thickened. Co-incident with this, the amative instinct becomes unusually active. Granting that the cerebellum is the organ of Amativeness, surely nothing can be more strictly in accordance with correct pathology than this functional excitement and exaltation during inflammatory organic disease. It seems to me that, if the connection between the cerebellum and the sexual propensity had not been previously proved, this case alone ought to have set pathologists upon the inquiry, and that the "so many cases" in which Magendie found "high irritation of the genital apparatus coinciding with atrophy, or more or less destruction of the cerebellum," would have gone far towards establishing such connection. At any rate, the facts of Magendie are adduced; his, and the phrenologists' inferences stated. Let the professional reader judge between them. If we mistake not, it will hardly need a great logician like Professor Smith, to see the superior correctness of the phrenologists.

The ill success which has hitherto attended the anti-phrenological facts, that have, with such zealous haste, been, from time to time, emblazoned forth, ought to teach our opponents caution. Before boasting too loudly of such facts in future, it would be well to ascertain, in the first place, whether they be *facts*, and if they be such, then, whether they are really hos-

While I readily grant to our opponents that a theory is

false which is contradicted by well-observed facts, I maintain with Bouillaud, that "every fact which seems to be in contradiction to a rigorously-demonstrated theory, has, most probably, been ill-observed,

In reference to objections raised on facts, analogous to the foregoing, *Broussais* makes these remarks : "It has been said that inactivity of the genital organs has coincided with diseases of the cerebellum, such as schirrus tumors, and tubercles. Who does not know that chronic diseases cause organs to lose the power of exercising their functions ? Even a smattering of medical knowledge is sufficient to convince of this truth. Thus, a disease of the cerebellum, which at first presented the characteristics of inflammation, and was attended by excitement of the muscles and of the functions of generation, may terminate in degeneration of the parts, which shall produce inertness in the organ, and destroy this excitement. The objections, then, are not of much weight. Besides, without forcing facts, without straining our ingenuity, without hunting for sophisms,—who does not know that a moderate excitement of the brain exalts the movements of the moral and intellectual faculties ; and that a more powerful excitement, which induces congestion, paralyzes them ? Why will it not be allowed that the cerebellum, when excited to a certain extent, may increase the activity of the genital organs, and that, at a later stage, when congested to excess, it may paralyze them ? This should be the case ; and, indeed, cannot be otherwise. But the adversaries of a doctrine take advantage of all facts which appear to them to be capable of shaking its credit.

"It has been said, also, that extraordinary and morbid excitement of the genital organs has taken place in coincidence, or in connection, with diseases of the spinal marrow. I can easily conceive this to be the case ; because the nerves, which communicate feeling and activity to the generative organs, do not proceed directly from the cerebellum to them ; they descend through the spinal marrow. Why, then, if the spinal marrow be irritated, should these nerves not excite the genital

organs? This is very conceivable, and we see proofs of it in the interesting work of M. Olivier d'Angers, as well as in the experiments of Dr. Ségalas, who has produced emissions in guinea-pigs, by irritating the spinal marrow in the lumbar region. A nervous trunk, when irritated, produces excitement in all the parts on which the nervous filaments proceeding from it are ramified."—*Combe on the Cerebellum*, p. 137.

#### EXCESSIVE SIZE OF THE CEREBELLUM PREDISPOSES TO EROTIC MANIA.

This is but a limitation of the general proposition illustrated by Gall, and more particularly insisted upon by Dr. Spurzheim and Dr. Andrew Combe; namely, "that *excess of endowment* in some organs, with corresponding excess of functional activity, is a very common predisposing cause of mental derangement."

#### CASE XXXVII.

"In the hospitals," says Dr. Gall, "we have constantly found the cerebellum to be very largely developed in all the subjects who were attacked by erotic mania, and in all those who, being attacked by a general mania, gave themselves up irresistibly to onanism." M. Esquirol showed to Gall the cast of a woman, who had been attacked by erotic mania. The very prominent occipital swellings showed a cerebellum developed in an extraordinary degree.—*Gall*, vol. iii., p. 203—4.

#### CASE XXXVIII.

"Gall possessed the skull of a madman, from amativeness, who fancied himself husband to six wives, and manifested various ideas of that kind. His cerebellum was extremely large."—*Spurzheim on Insanity*, p. 135. Boston, 1836.

"On the 21st October, 1835, Mr. Combe, accompanied by Mr. D. B. White, Mr. T. M. Greenhow, surgeon, Mr. William Hardcastle, surgeon, Mr. W. A. Mitchell, editor of *The Tyne Mercury*, Mr. William Hutton, and Captain Hooke, visited the Asylum kept by Mr. Wilkinson at Dunstane Lodge, two and a half miles from Newcastle. Mr. Wilkinson was not a phren-

nologist. Mr. Combe explained that, in cases of decided monomania, the character of the insanity generally has a perceptible relation to the development of the brain; and with the view of showing that this is the case, he proposed to examine the heads of a few of these patients, and to write down his observations on them before any information was given of the particular affections under which each labored. In pursuance of this purpose, several patients were introduced, examined, and commented on; one of whom was

## CASE XXXIX.

*“Patient, W. A.—Mr. Combe’s Observations:* The cerebellum is very large; the whole region of the animal propensities is large; Cautiousness approaches to the very summit of his head; Conscientiousness is extremely deficient; and altogether, the coronal region, which manifests the moral sentiments, is very deficient. The intellectual organs are not defective; Concentrateness is rather large. The natural character will be bad; the dispositions low; and the love of woman will, probably, be the characteristic feature of his insanity.”

*Mr. Wilkinson’s remarks:* “When brought here, he attacked the men in consequence of women being out of his reach; when restrained, he was like a raging bull, and actually bit off part of his own thumb when he found he was mastered. A very low and brutal character.”—*Phrenological Journal*, vol. ix., p. 521.

COMPLETE CASTRATION CAUSES A REMARKABLE DIMINUTION  
IN THE BULK OF THE CEREBELLUM.

When males are castrated young, the growth of the cerebellum is arrested; and if we examine their skulls, the cerebellar cavity will be found shrivelled, being neither so broad nor so deep as in non-castrated subjects. To be convinced of this, compare the skulls of castrated rabbits, sheep, kine, horses, or other animals, with those of animals that are entire. The difference will be found very striking. Without this, it may be

readily seen that the nape is much thinner and narrower in the castrated than in the non-castrated. Compare the bull, ram, and stallion, with the mutilated of the same species. When castration takes place after the completion of growth, it does not immediately destroy the sexual propensity, or the power of erection. These are gradually lost as the cerebellum gradually diminishes.—*Gall*, vol. iii., p. 180.

One of the cases mentioned by Sir Astley Cooper, in his work on the Testes, will serve to illustrate the gradual loss of virile power, by the loss of the testicles. The patient had lost one testicle without virility seeming to be materially impaired; he subsequently had the other removed. Four days afterwards, the patient informed Sir Astley that he had had, in the preceding night, an emission, which appeared on his linen, (fluids from the *vesiculae seminales* and prostate.) For nearly twelve months, it seems, he had the sensation of emissions *in coitu*. He then had erections and connection, at long intervals, but without the sensation of emission. After two years, he had erections very rarely and imperfectly; and, in time, the penis became shrivelled and wasted. Attention was not directed to the cerebellum.

Vimont states the result of his observations to be, that castration produces a remarkable diminution of the cerebellum.—*Vimont's Phrenology*, vol. ii., p. 233.

"If the genital organs," says Broussais, "the organs of secretion in particular, which is the foundation of this function, disappear, the cerebellum diminishes. Castration proves this fact: The cerebellum becomes depressed, the lower part of the head shrinks, while the other parts preserve nearly their original dimensions."

"The genital organs," says Baron Larrey, "appear to have upon the cerebellum a marked influence; for, when removed by disease, or other means, the occipital region of the cranium and cerebellum gradually undergo a sensible reduction of size, the occipital swellings disappear, and the whole occipital region is diminished in proportion. We have verified this change

of dimension in a great number of soldiers who had been operated upon for *sarcocele*."—*Clinique Chirurgicale*.

## CASE XL.

Baron Larrey sent to Gall a soldier, aged thirty years, who, nine years previously, had bruised his testicles against the pommel of the saddle, in consequence of which they swelled and became very painful ; and, shortly afterwards, began to waste away, so that, at last, there remained only two little membranous balls. Gall found the occipital swellings narrow, sunken, and unequal ; the soldier viewed women with perfect indifference, though formerly much addicted to them.—*Gall*, vol. iii., p. 187.

**UNILATERAL CASTRATION, OR LOSS OF ONE TESTICLE, CAUSES  
A DIMINUTION OF THAT LOBE OF THE CEREBELLUM SITUATED  
ON THE OPPOSITE SIDE OF THE BODY.**

Dr. Gall proved, by numerous observations and experiments, that on every occasion, when one testicle only has been removed from any animal, the lobe of the cerebellum, on the opposite side, visibly decays, or is, in some way, altered in its substance. He caused rabbits to be castrated, some on the right side, and others on the left ; and, having had them killed, six or eight months afterwards, he found, without exception, the lobe of the cerebellum of the opposite side smaller than on the other side, and the occipital swellings flatter.—*Gall*, vol. iii., p. 184—5.

Vimont made a like experiment on four rabbits, and killed them eight months afterwards ; but he was not satisfied that the contrary lobe had diminished. In four others, however, that he kept eighteen months, there was a perceptible diminution of the opposite lobe.

## CASE XII.

Baron Larrey sent a soldier to Gall who, in undergoing an operation for hernia, had lost the *right* testicle, *some years* before. He examined the nape of his neck, in the *presence* of

the two physicians who brought him, and found the *left* lobe of the cerebellum much less than the *right*. The two physicians were struck with the difference.

#### CASE XLII.

M. Dannecy, M. Patrix, and several pupils, examined Jean-Michel Brigaud, in the hospital of the school of medicine, who had, nearly two years before, undergone an operation for diseased testicle of the *right* side. In the volume of the Pathological Observations, made in the hospital, No. 108, 15th July, 1817, their observations are thus recorded : "The *left* lobe of the cerebellum was much softer and flatter than the *right* lobe. Its convolutions, or folds, appeared also more sunk or obliterated on the same side. Each of these lobes having been opened at exactly six lines of distance from the lateral portion corresponding to the *medulla oblongata*, we were surprised to see how much greater the proportion of the white matter and of the grey was in the *right* lobe ; the difference was estimated at more than *one-third*. The interior development of the cranium also corresponded to this difference."—*Gall*, vol. iii., p. 184.

#### CASE XLIII.

A man had the *left* testicle injured when he was twenty-four years of age, after which it decayed till it assumed the consistence of a little ball of cotton. At thirty, he himself remarked that the *right* occipital swelling was much less rounded than the *left*. Gall examined him, and found the *left* testicle wasted, and the *right* side of the cerebellum decayed.—*Ibid.*, p. 186.

#### CASE XLIV.

A domestic servant applied to Gall, complaining of diminished regard for sexual intercourse, which he ascribed to a blow he had received on the testicles some years before. Gall found the *left* testicle almost entirely wasted ; he found, too, that the *right* occipital swelling was entirely flat, while the *left* was considerably elevated. While this man was with Gall, one of

the doctor's pupils happened to enter, who, on examining the nape, asked the servant whether one of his testicles was not smaller than the other—a question which excited in the man great astonishment.

#### CASE XLV.

In the pathological anatomy of the *Hôtel Dieu*, is recorded the case of a patient named Florat, sixty years of age, in whom, after death, the left testicle was found less than the right, and the right lobe of the cerebellum less than the left.—*Gall*, vol. iii., p. 187.

#### CASE XLVI.

In the same records, is related a case which may, by analogy, be classed under this head. A woman died, in whom the right ovary was converted into three large cysts, containing serous matter. The left lobe of the cerebellum was perceptibly wasted.—*Ibid.*, p. 188.

#### CASE XLVII.

Another woman died, 11th November, 1818, in whom, on dissection, the right ovary was found diseased, and the left lobe of the cerebellum about a third less than the right.—*Ibid.*

**INJURIES AND DISEASES OF THE CEREBELLUM ARE GENERALLY ACCCOMPANIED BY DISTURBANCE, DIMINUTION OR EXTINCTION OF THE INSTINCT OF PROPAGATION, AND BY A WASTING OF THE TESTICLES.**

#### CASE XLVIII.

At Vienna, Gall was consulted by two officers who had become impotent in consequence of blows which had grazed the napes of their necks. One of them gradually recovered the generative faculty.—*Gall*, vol. iii., p. 190.

#### CASE XLIX.

At Berlin, Dr. Formey spoke to Gall of a man, who, in consequence of a wound in the nape of the neck, had at first ir-

regular erections, after which he fell into complete impotency. He recovered his virility, however, at the end of six months.—*Ibid.*, p. 190.

#### CASE L.

A coachman who had previously been much given to sexual indulgence, struck the nape of his neck against a joist. After this his powers diminished daily, and he finally became quite impotent.—*Ibid.*, p. 190.

#### CASE LI.

Baron Larrey showed Gall a soldier of the imperial guard, who had been wounded in the nape of the neck at the taking of Alexandria, after which his genital organs fell into decay; he lost the power of erection, and all sexual desire.—*Ibid.*, p. 191

#### CASE LII.

Another guardsman presented himself to Baron Larrey with a cicatrix transversely across the occipital swellings, the consequence of a sabre blow. Before this, he was a great frequenter of women; after it, he lost not only all power, but all desire.—*Ibid.*

#### CASE LIII.

François Auguste Maréchal-des-logis received at the battle of Bonevento a wound from a musket-ball, which grazed upon the two inferior occipital swellings, (corresponding to the lobes of the cerebellum,) which in this individual were very prominent. The patient at first suffered severe pain in the occiput, with heaviness and numbness of the lower extremities. The testicles wasted, the penis also was reduced in size, and remained without action.—*Baron Larrey's Mémoires de Chirurgie Militaire et Campagnes*, vol. iii., p. 262.

#### CASE LIV.

Bigot (Réné) *chasseur à cheval*, of strong constitution, and very fond of women, received at the same battle a cut from a sword, which divided the skin and all the convex or projecting portion of the occipital bone through to the *dura mater*, of

which a very small part was touched. The right lobe of the cerebellum was seen through the opening of the *dura mater*. After this, the testicles diminished sensibly, and in fifteen days were reduced to the size of a bean. He soon lost all idea of his enjoyments with the other sex.—*Ibid.*

#### CASE LV.

Pierre Soult, of the 22d Chasseurs, received from a Mameluke, at the battle of Salehyah, a cut from a sabre, which divided, among other parts, the external protuberance of the occipital bone. The man was cured; but Larrey adds in a note, “I have since had occasion to see this soldier, who declares that he has been deprived of his generative power ever since that wound.”—*Ibid.*, vol. ii., p. 150.

#### CASE LVI.

T. P. B., aged forty-one, was, on the 29th day of June, 1836, seriously injured by a railroad accident, the injury consisting in general cerebral concussion and particular injury on the back of the neck. The accident was succeeded by insensibility, and this by pain in the head and mental disturbance. Four or five weeks after the accident he discovered that he had lost the desire and physical power of sexual intercourse, and this from the time he was wounded. The symptoms above mentioned, except the last, disappeared in about four months; but the instinct of propagation, for which he was peculiarly distinguished while in health, continued completely silenced until the summer of 1838, and in December of that year, near two and a half years after the accident, it was but partially restored.—*Cases by Dr. Fisher in American Journ. Med. Sciences*, Feb., 1839, Article VII.

#### CASE LVII.

Gætano, a soldier of the 9th Portuguese Caçadores, was struck by a piece of shell at Salamanca, in June, 1813. It shattered a part of the occipital bone; in five months he recovered, but afterwards repeatedly consulted Dr. Hennen on the means of recovering his virility, which, he said, the shell had com-

pletely carried away with it.—*Hennen's Principles of Military Surgery*, p. 245, Am. ed.

#### CASE LVIII.

“Priapism,” says Dr. Hennen, “is occasionally observed to occur in wounds of the head. In a case which lately occurred in the Cavalry Hospital, near Edinburgh, this symptom was particularly marked in a hussar, who had suffered severe injury by a fall from his horse. The penis was in a state of priapism during the greater part of the first two days after the accident; and, towards the close of life, he frequently rubbed the genitals violently with his hand. On dissection, the *dura mater* was found extensively separated over the head. This separation included the *tentorium cerebelli*, and beneath its edge about four drachms of coagulated blood were found, the principal part of which lay on the cerebellum.”—*Ibid.*, p. 246.

#### CASE LIX.

Baron Larrey mentions a soldier who had been wounded in the occipital region by a splinter of wood, which was followed by all the symptoms of inflamed cerebellum. Some years afterwards, he came again under the baron’s notice; he complained of a feeling of pain and coldness constantly felt at the back part of the head. His penis was not more than five or six lines long, his testicles were not larger than small beans, and the slightest erections were never experienced.—*Brigham on the Brain*, p. 82.

#### CASE LX.

In the *Lancet*, (May 20th, 1837, p. 320,) is narrated the case of J. F., aged five years, who, during his sickness, had frequent and long-continued erections. The mother remarked that she had never seen such a state of genitals in any other child. He died 12th of August, 1836, and in each lobe of the cerebellum was found a tumor of the size of a marble.

#### CASE LXI.

A man, aged fifty-three years, of very quiet and religious

habits, accidentally struck the back part of his head and neck against one of the corners of his bed. There was considerable contusion, but no further injury. Very soon afterwards, he became satyriacal ; formerly modest and decorous, he was now so vehemently salacious, that no woman could approach him without danger of being insulted. Even his own daughters were not safe from the rage of his lust. For three months his erotic excitement lasted, and his physical and intellectual power became enfeebled and childish, so overpowering was the predominance of this one passion. After a fit of furious anger with his wife for refusing conjugal rights, he fell into convulsions ; after which, he complained of an intense pain at the *crown of the head*, and from that moment all uneasiness at the occipital region ceased, and the satyriasis left him. In place of the satyriasis, there was a religious delirium, indicated by a constant muttering of prayers. He died, but permission could not be obtained to examine the brain. Here was an injury in the region of the cerebellum, succeeded by pain in that region, and by erotic mania. After three months, the pain in the cerebellar region ceased, and the erotic mania ceased ; intense pain in the coronal region followed, and was accompanied by religious delirium. This case is, therefore, doubly interesting, seeing that the coronal region is the seat, according to phrenology, of the organs of the moral sentiments.

—*Med. Chir. Rev.*, July, 1833, p. 238.

#### CASE LXII.

A boy, thirteen years of age, had given himself up incurably to onanism, which was followed by incontinence of urine and paralysis. He died ; on dissection, a pound of water was found in the cerebral cavities ; both lobes of the cerebellum were found filled with pus of a putrid character. The commissure of the cerebellum was singularly decayed, and of a yellowish color.—*Gall.*, vol. iii., p. 198. Here, as Gall remarks, there might be some doubt whether the onanism occasioned the disease, or the disease the onanism ; but the reciprocal

influence of the organs of generation and the cerebellum is clearly shown.

#### CASE LXIII.

Dr. Hogg gives the case of a young married man whose testicles inflamed, and afterwards remained tender, irregularly enlarged, and incapable of performing their natural functions. The individual became, soon after, the subject of an acute general disease, under which he sunk. On examination, the lower portion of the cerebellum exhibited a singular pulpy appearance.—*Combe on the Cerebellum*, p. 169.

#### CASE LXIV.

An officer of the African army became extremely addicted to sexual indulgence. He died of a febrile nervous affection; and Dr. Baudens, a distinguished military surgeon, found in his cerebellum a concretion which weighed more than an ounce.—*Broussais' Cours de Phrenologie*, p. 785.

#### CASE LXV.

In the fifth volume of the Phrenological Journal, p. 311, Dr. Fossati mentions the following: "Professor Metaxa, a philosopher of much merit, (at Rome,) having heard that we regarded the cerebellum as the organ of Amativeness, communicated to me the case of a lady, who, to a mature age, lived a quiet and regular life, and then gave way to extreme dissipation; shortly after which, she was attacked by a disease, of which she died. Dissection exposed suppuration of the cerebellum."

#### CASE LXVI

In the sixth volume of the London Medical and Surgical Journal, p. 125, there is quoted from the *Revue Medicale*, a statement that, at a meeting of the Academy of Medicine, there was exhibited a compact tuberculous mass, of the size of a hazel-nut, taken from the cerebellum of a young man, nineteen years of age, who, in life, had been given to excessive masturbation, and was subject to continual erections.

## CASE LXVII.

Eliza Purt, aged nineteen years, was admitted into St. Bartholomew's Hospital, under the care of Mr. Lawrence, affected with head-ache, &c. She was married a fortnight before admission, since which the pain in the head had increased so much as to compel her to seek relief. She died. There were no evidences of inflammation in the substance of the brain; three ounces of fluid were found in the lateral ventricles. On dividing the tentorium, the right half of the cerebellum appeared enlarged, and its anterior part felt as if it contained fluid. When cut into, about half an ounce of thin, very fetid pus, escaped; the walls of the abscess were blackish-green; the cerebellum was adherent to the *meatus auditorius internus*; \* \* \* the uterus and ovaries were enlarged, and in a state of congestion; and, in the right ovary, a very beautiful *corpus luteum* was found.—*Lancet*, vol. xvii.

## CASE LXVIII.

A girl, abandoned to a premature indulgence in venereal pleasures, prostituted herself to satisfy her desires, *et se livre à toutes les manœuvres de la masturbation*. She fell into a state of nymphomania, and died. An induration of the middle lobe of the cerebellum was found, with other appearances of chronic inflammation of the part.—*Ibid.*, vol. xix.

## CASES LXIX. AND LXX.

Dr. Carswell, in his Illustrations of the Elementary Forms of Disease, relates two cases which came under his own notice: Two young men, from eighteen to twenty years of age, reduced themselves to a state of most appalling moral and physical degradation by the act of self-pollution. Both died from its effects—one of them having often declared that he was compelled towards the gratification of a desire which he had no power to control, having frequently attempted its gratification after the prepuce had been excised as a means of prevention, and when the glans and penis were in a state of active inflammation. In each of these patients, the cerebellum

was the seat of a tumor as large as a hen's egg, composed entirely of the medullary sarcoma.

#### CASE LXXI.

Dr. Brigham says: "The cerebellum of a young man, long addicted to the habit of masturbation, was found, by Dr. Fuller, physician to the Retreat for the Insane, in this city, (Hartford,) diminished and diseased."—*Brigham on the Brain*, p. 85.

#### APOPLEXY OF THE CEREBELLUM IS GENERALLY ACCCOMPANIED BY EROTIC PHENOMENA.

Erotic phenomena are so often present in cerebellar apoplexy as to constitute important diagnostic means. Mons. B. A. Serres, one of the physicians of the *Hôpital de la Pitié*, called the attention of the profession to this subject by publishing some interesting and instructive cases in the *Journal of Experimental and Pathological Physiology*, 1822, Nos. II. and III. From an examination of the following, and a great many other cases of cerebellar apoplexy, the following proposition may be fairly deduced: *Whenever erotic phenomena are present, in a case of apoplexy, the cerebellum is involved in the disease.* The converse of the proposition is not true: cerebellar apoplexy may exist in the absence of erotic phenomena. The enlightened pathologist, however, will deduce from this no inference unfavorable to the phrenological doctrine.

#### CASE LXXII.

A man was brought to the *Hôtel-Dieu*, who had been found on the quay with prostitutes, and who, in the act of coition, fell into the condition in which Serres saw him. The extremities were cold, but the temperature of his head and neck was very high; the organs of generation were in a state of heat, and the penis was in a state of erection. "On opening the skull," says Serres, "all the pupils present, as well as myself, were with the high irritation of which the cerebellum had likely been the seat." In the *corpus dentatum* of the *procererebelli ad testes*, a cavity was found capable of con-

taining a musket-ball, and the hemispheres of the cerebellum were very much injected.

#### CASES LXXXIII. AND LXXIV

The foregoing case was so marked, and so much in accordance with the opinion of Gall on the relation between the cerebellum and the genital organs, that Serres was led to consult the numerous observations he had collected on the subject of apoplexies. He found accounts of two individuals, whose cases had presented inflammation of the cerebellum, and who, during the continuance of the apoplexy, had presented well-marked erections and abundant emissions. One of these cases had been communicated to M. Serres by Dr. Lafore, then house-surgeon of *Hôtel-Dieu*.

#### CASE LXXV.

Thomas Marie-Anne, a day-laborer, much addicted to sexual pleasure, passed the day in a tavern. In the night, somnolency, loss of consciousness, and erections occurred; he died, and, on opening the skull, the brain was found in a natural state, but the cerebellum was much redder than natural; some parts of the *corpus dentatum* appeared to be corroded; and in the central part of the right lobe of the cerebellum was found a cavity of considerable size.

#### CASE LXXVI.

Nicholas Bourgoin, aged forty-six years, was brought to the hospital, presenting all the symptoms of violent cerebral apoplexy; during the night, he had erection, tension, and swelling of the genitals, and abundant emission. Emboldened by the previous cases, Serres prognosticated, from the symptoms, that the cerebellum was the principal seat of disease. The patient died; and, on the skull being opened, the cerebellum immediately attracted attention. Its size was much greater than usual; the substance of a lively red; three little cavities were found in the thickness of the organ, and the whole substance of the superior vermicular process presented small

clefts. Dr. Edwards and Dr. Lisfranc were present at this examination.

#### CASE LXXVII.

Gambar, fifty-two years of age, a public writer, was brought to the hospital of *La Pitié*, on the 5th of March, 1819. He was completely unconscious, his face red and injected, his extremities cold, the penis in a state of constant turgescence, and at moments in complete erection. After death, M. Serres made the examination of the body in his anatomical course, and prognosticated a lesion of the cerebellum in consequence of the affection of the genital organs. The cerebrum was affected, and the cerebellum, especially the superior vermicular process, presented numerous little effusions of the size of a grain of hemp-seed. In the posterior portion of the hemisphere, to the right of the cerebellum, was a clot of blood of the size of a musket-ball.

#### CASE LXXVIII.

In 1820, an apoplectic patient, about fifty years of age, was brought to the hospital of *La Pitié*. M. Serres stated to Dr. Falret his opinion that the effusion was in the cerebellum, a circumstance which strongly arrested the attention of Dr. Falret. On examining the body after death, no trace of effusion, recent or old, was to be found in the cerebrum. But the cerebellum was injected ; in the central portion of the superior vermicular process, there was a large cavity filled with a clot of blood ; the *processus cerebelli ad testes* was very red ; the fourth ventricle contained blood.

#### CASE LXXIX.

John-Baptist-Francis Girardin, aged forty-two, greatly addicted to eating, drinking, and women, passed the night of the 18th and 19th in a brothel ; and, having fallen into a violent fit of rage in consequence of his wife's remonstrances, he left home on the morning of the 19th, but was brought back in the evening without consciousness, his face swollen and red, and as taken to *La Pitié* on the morning of the 20th. His wife

stated confidentially to M. Serres that during the night he had had constant erection. The penis was then swollen, and his shirt bore the marks of large emissions. His neck was swelled, and the occipital region of a burning heat. Erections kept returning from time to time, and on the 21st he died. On examining the body, the occipital region was found to project greatly. On exposing the cerebellum, the substance was found eroded in its anterior part, and on the borders of this erosion were some bloody clots. On thrusting in the fingers, a cavern was found in its substance. The volume of the cerebellum was great.

#### CASE LXXX.

Serres gives the case of a woman who died of an apoplectic effusion into the cerebellum, and who, during the fit, had hemorrhage from the uterus. On examining the uterus after death, a large clot of blood was found within its cavity, and the broad ligaments, ovaries—in fact, every part of the generative apparatus, were in a state of high vascularity. Yet she was seventy years of age, and her menses had ceased at the usual period.—*Lectures on Theory and Practice, by Dr. Stokes, edited by Dr. Bell*, Philadelphia, 1840, p. 264.

#### CASE LXXXI.

Dr. Stokes mentions the case of a young man, brought into the Meath Hospital some time ago, with paraplegia. It was observed that the penis was in a state of constant erection, and there were continual seminal emissions. On dissection, an effusion of blood was found in the cerebellum, and another in the hemisphere opposite the paralyzed side.—*Ibid.*, p. 264.

#### CASE LXXXII.

The same physician relates the case of a patient who was attacked with apoplexy and paralysis of one side; but, with the unparalyzed hand he continued to attempt the act of masturbation, so that it was necessary to tie down his hand. On dissection, there were found several effusions in the substance of the cerebellum.—*Ibid.*, p. 264.

## CASE LXXXIII.

Dr. Dunglison, some years ago, published a case which has been cited by Dr. Abercrombie as one of meningitis of the cerebellum. A boy aged five years was seized with violent convulsions on the 9th of August; on the 15th, coma supervened; on the 16th, he died in convulsions. On dissection, the brain was found healthy; there was remarkable vascularity of the *tuber annulare*, forming a thick web of vessels. This was connected with the arachnoid coat of the right side of the cerebellum, which was thickened with some deposition of coagulable lymph. About four ounces of fluid was found at the base of the skull, but not above a teaspoonful in the ventricles.

Dr. John Bell points out an important point in this case, unnoticed by Dr. Abercrombie, namely, the connection between the state of the cerebellum and the genital organs—the latter being much excited, and the penis in an almost constant state of erection. See "*London Medical Repository*," Oct., 1822; *Abercrombie on Diseases of the Brain*, 3d ed., London, 1836, p. 60; *Lectures on Theory and Practice of Physic*, by Dr. Stokes, Philadelphia, 1840; *Note by Dr. Bell*, p. 265.

## CASE LXXXIV.

A woman, seventy-five years of age, died suddenly at the hospital *La Charité*. On examination, it was found that the cause of death was apoplexy of the cerebellum. The cavity of the uterus was filled with blood, and the tissue of the body of this organ was intensely red.—*Andral's Medical Clinic*, Philadelphia, 1838, p. 272.

## CASE LXXXV.

M. Guiot relates a case of cerebellar apoplexy of the middle lobe, which was attended with continual erection and frequent pollution.—*Ibid.*, p. 276.

## CASE LXXXVI.

A seamstress, thirty-one years of age, experienced a fright while menstruating; the menses were suppressed, and she was

seized with dizziness and an acute pain in the back part of the head. Her condition was variable for a long time, but her menses could not be re-established. She was seized, finally, with more violent pain, extending over the whole cranium, and died in twenty-four hours. The cerebral hemispheres were found much injected; externally, the cerebellum appeared healthy, but internally, was found an immense cavity, where the substance had been deprived of its natural consistence, and was changed into a greyish mass. This softening occupied at least two-thirds of the right hemispheres of the cerebellum.—*Ibid.*, p. 282.

#### CASE LXXXVII.

M. Dany published a case of cerebellar apoplexy, in which the patient continually applied his hand to the testicles.—*Ibid.*

#### CASE LXXXVIII.

Dr. Rowel observed, at the hospital *St. Antoine*, an apoplectic, seventy years of age, in whom menstruation reappeared during the disease, and thence he inferred the apoplexy to be cerebellar. This was found to be the fact; and the uterus was found filled with coagulated blood, the fallopian tubes and ovaries being highly injected.—*Brigham on the Brain*, p. 82.

Intimately connected with the subject of apoplexies of the cerebellum, is the effect of hanging on the genitals. It usually produces violent erections and abundant emissions; and cases are mentioned by M. Archenholz, M. Seze, and others, in which temporary suspension has been resorted to by debauchees for the purpose of exciting the genital organs. The following case was related to Mr. Levison by Dr. Travis, of Scarborough:

#### CASE LXXXIX.

A few years ago, an Italian *castrata* singer at the opera, was found suspended by the bedstead; and, on the arrival of the surgeon, the man was dead, although the landlady stated

that he had hung himself unintentionally. The facts were thus stated by her to the jury summoned to sit on the body: She said "that the deceased had informed her that he had been deprived, in the most barbarous manner, of certain essential parts for sexual gratification; but that, *at certain times*, he experienced a very powerful desire, and that he had accidentally discovered that, by partially hanging himself, he allayed the desire, and had certain delightful sensations." And she assured the jury that she had been in the habit of cutting him down on many occasions; and that, during his last pleasurable suspension, she had heard a rapping at the street-door, and ran down to answer it; but, although she returned as quickly as possible, the gentleman's life was gone. The medical gentleman called on the same occasion, informed the jury that, as all executed criminals had priapism and emission, the account given of the *castrata* was not improbable.—*Lancet*, vol. xix., p. 49.

I may mention, in this connection, an observation of Dr. James Johnson. "There is," he says, "an every-day occurrence which deserves notice, as it is in the power of every one to try its reality: we allude to the venereal desire being very generally excited by lying flat on the back. It seems as if the cerebellum was stimulated by the slight congestion thereby induced."—*Med. Chir. Rev.*

MECHANICAL IRRITATION OF THE CEREBELLUM, EITHER BEFORE OR AFTER DEATH, PRODUCES EXCITEMENT OF THE GENITAL ORGANS.

CASES XC. AND XCI.

In an ox, knocked down by a blow on the occiput, says M. Serres, I have found the cerebellum torn in its superior part in those in which the penis had presented, during the experiment, decided oscillating movements; and, in a stallion, whose leg had been crushed by a carriage, an amputating-knife plunged into the median lobe of the cerebellum, as far as the upper part of the *medulla spinalis*, induced a very decided erection.

If, in a guinea-pig, says M. Segalas, we lay bare the cerebrum, and plunge a probe into the cerebellum, so as to arrive at the superior part of the spinal marrow, we induce erection.—*Serres' Anatomy of the Brain*, vol. ii., p. 605–6.

Dr. Budge, of Altenkirchen, has succeeded, by experiments on numerous animals, in demonstrating the influence of the cerebellum on the genital organs, in what he terms “the most simple, distinct, and certain manner.” “For these experiments,” says he, “old cats are the best animals that can be employed; and they may be made upon them either during life, or, still better, immediately after death. The experiments were repeated so often, that there could not be the least doubt in regard to their result; and though, in some animals, the phenomena were far more marked and distinct than in others, yet, in all, they were so similar, that the relation of one would sufficiently illustrate the whole.”

#### CASE XCII.

“In a twelve-year old male cat, which had been killed by a wound of his heart, the whole of the skull was removed as quickly as possible, and then the abdominal cavity opened, and both testes, with their spermatic cords and *vasa deferentia* exposed—all of which occupied but a few minutes. Not the slightest motion was observed in the testicles. I now stimulated the cerebellum with the point of the knife; and I had done so for scarcely as much as three seconds, when one testicle raised itself up, and moved from the spermatic cord on which it had lain, so as to form nearly a right angle with it. At the same time, it became more and more tense. The more I irritated the cerebellum, the more the testicle moved. I stimulated hither and thither, but the two testicles were never moved at the same time. I soon discovered the cause of this remarkable fact. When I stimulated the right lobe of the cerebellum, and the right half of the commissure, the left testicle always moved; when, on the other hand, I stimulated the left lobe, and the left half of the commissure, then as regularly the right

testicle rose up. I had thus the movement of the testes entirely under my control, so that I could make one or the other move as I wished ; and I continued the experiment for full half an hour."—*Müller's Archiv. Heft*, 1840. See, also, *Note by Dr. Bell to Stokes' Lectures on the Theory and Practice of Physic*, Philadelphia, 1840, p. 265.

#### REMARKS ON THE TREATMENT OF SOME DISEASES OF THE REPRODUCTIVE SYSTEM.

No wonder need now exist that physicians have met with little success in the treatment of many diseases of the reproductive system. With a part, only, of that system, have they been acquainted ; and that part the subordinate and executive one. The fountain of amative emotion—the great encephalic centre, on the condition of which the strength or weakness of the sexual feeling depends ; the immediate seat of genital precocity, salacity, nymphomania, satyriasis, and oftentimes impotency, has been unknown. Physicians have been often operating at the wrong end of the vertebra.

It is no part of my plan to dwell on the alterations in treatment which the establishment of the phrenological doctrine will produce ; but I think it advisable to add a few cases and observations that may assist the physician to apply a knowledge of the function of the cerebellum to practical advantage in his professional avocations.

#### CASE XCII.

A very talented lady was tormented from infancy by most irregular desires. The careful education which she had received was alone capable of saving her from the most inconsiderate conduct, to which she was impelled. When, at a later age, she found herself abandoned to her own propensities, she tried every means to gratify her burning desires, but gratification to excite them the more. Often she saw int of falling into mania. Reduced to despair, r home, left the town, and took refuge with isolated country-house, where want of ob-

jects, the strictest severity of manners, and the cares of a garden, prevented the explosion of the evil. After having again lived for some time in a large town, she felt herself threatened with a relapse, and she took refuge a second time with her mother. At her return, she applied to Gall at Paris, and complained that she was a woman driven to despair. Everywhere, said she, I see only the most lubricous images ; the demon of luxury pursues me everywhere without ceasing, at table, even in my sleep ; I am disgusted with myself—yes, I feel that I can no longer escape from insanity or death.

Gall stated to her, shortly, the natural history of the instinct of reproduction, and called her attention to the shape of the nape of her neck. Although her head was very large, the diameter of the nape of her neck exceeded the distance from one ear to the other. She then understood the cause of her condition. Gall advised her to continue her journey, and join her mother ; to vary her occupations, in order to diminish the activity of the cerebellum ; frequently to apply leeches to the nape, in order to moderate the state of irritation of this part, and to avoid heating food and exciting liquors.—*Gall*, vol. iii., p. 202.

#### CASE XCIV.

A young man full of talent, and well educated, in whom the cerebellum was of extraordinary size, felt himself, from infancy, strongly drawn towards erotic ideas, but he overcame them, to a certain extent, by means of his tendency to devotion, which was equally strong. When his social relations would have permitted him to give himself up, without constraint, to the pleasures of love, he was not long in perceiving, with a feeling of alarm, that often it became extremely difficult for him to avert his attention from the voluptuous images which haunted him, and to direct his mind to the pressing and important duties of his situation. His whole being was absorbed by sensuality. Not to become a victim completely to these feelings, he was under the necessity of occupying himself assidu-

ously with scientific pursuits, or of finding out, for himself, some agreeable new occupation.—*Gall*, vol. iii., p. 57.

In relation to the foregoing, and other cases, Gall makes a remark well worthy of attention. “We see by these examples,” says he, “that persons in whom the cerebellum has acquired an extraordinary development, have a *natural predisposition* to erotic mania; but these cases also show that extreme activity of this organ does not really produce it, except they give themselves up to the enjoyments of physical love. They prove, moreover, that *frequent enjoyment is not a remedy* for this species of insanity.”—*Gall*, vol. iii., p. 203.

Treating of the opinion that continence is a cause of erotic mania, he speaks of it with little confidence, though he does not deny that too severe a continence may have such an influence. “It is, I think, very rare,” says he, “that continence is carried so far as to produce such effects. Nature has so many means of diminishing too great an abundance of the seminal fluid, even without the assistance of the individual, that this species of derangement is very seldom to be found. Believe, however, in Him who tries the reins and heart—‘*It is not good for man to be alone.*’ Often an extreme continence is hinted at as the cause of a complaint, when its true source should be sought only in secret debauch. A bishop, who edified his diocese by an exemplary life, fell, towards his sixtieth year, into a state of melancholy, accompanied by manifest weakness of intellect. Every one deplored the unmerited misfortune of so holy a man. He placed his confidence in me. I often went out with him, sometimes walking and sometimes in a carriage. Every time he saw a young woman, he sighed deeply; every time he saw a happy couple, he pressed my hand warmly, and said, ‘How great is their felicity!’ I anticipated confessions which he might probably have to make; I spoke to him, in the tone of friendship, of the happiness his spouses enjoyed in a well-assorted marriage, and of the goodness of the Creator inscribed on all his works. The veil

dropped, and exposed the *man* to view ; the pious bishop acknowledged to me that he was one of those who sin seven times a day.

"Acquainted as I am with human weakness, I am much more disposed to attribute erotic mania to excess of indulgence than to too severe a continence. Excess produces such an irritability and excitability of the cerebellum, that it is no longer in the power of an individual to arrest the torrent of lubricous ideas and voluptuous images that come pouring upon him."

—*Gall*, vol. iii., p. 208.

An extremely large cerebellum, says Broussais, tends to produce excesses. "These induce exhaustion of the nervous energy more efficaciously than the extraordinary activity of any other propensity, because the act of generation partakes, to some extent, of the nature of a convulsion. It weakens prodigiously the locomotive power, and, at the same time, the vigor of the intellectual faculties." "A multitude of diseases are the results of its abuse, and especially convulsive affections, disturbances of circulation, and derangement of digestion. Its moral effects are, disorder in affairs, for such excesses induce stupidity, or, at least, a deplorable indolence." He then warns those young persons who feel themselves in danger of being overcome by this propensity, to betake themselves to corrective influences, if they wish not "to expose themselves to moral and physical degradation, and abridge the course of existence."

By some, who have the cerebellum large, I have been assured that there is with them no medium between excessive indulgence and total abstinence. They find it much more easy to avoid sexual intercourse entirely, than to indulge in it with moderation.

The corrective influences to be resorted to by those who would subdue the strength of the propensity, and lessen the irritability and excitability of the cerebellum, are, attention to regularity of regimen ; an avoidance of heating food and stimulating drinks ; regular and sufficient muscular exercise ; avoidance of lascivious books, plays, dances, and associates ; a resort to

the company of those in whom intellect and sentiment predominate, and to such amusements as have no tendency to suggest erotic images and awaken amorous desires. Diversified mental employment, and particularly the combined activity of the intellectual faculties and moral sentiments, are means of the most effectual kind.

I have quoted two cases in which disease of the cerebellum and a return of the menstrual discharge were simultaneous in women over seventy years of age, and one in which a sudden cessation of the menstrual secretion and disease of the cerebellum were contemporaneous. Such cases ought to arrest the attention of the physician: it will probably be found that, over this discharge, the cerebellum exerts great influence. The very contradictory treatment recommended, and the small and uncertain effect of the usual remedies in cases of obstructed, suppressed, excessive, and irregular menstruation, afford other strong reasons for attention to this subject.

Ferrand, when treating of Erotic Melancholy, assures us that physicians have accomplished good by the application of leeches to the neck, behind the ears, in patients attacked by this disease.

#### CASE XCV.

A young man, of plethoric and robust constitution, fell into erotic mania. He had long-continued erections, and his testicles were swollen and painful. What would be more natural, according to the received ideas in medicine, than to seek for the cause of his malady in the inflammation of his external organs? Accordingly, his physicians employed every means to subdue the local inflammation, and to remove the local irritation of those organs. Notwithstanding all these means, the patient continued in the same state during three weeks. Gall being then called in, he directed the attention of his associates to the inflammation of the brain, and especially of the cerebellum. They concerted their plan of cure in reference to this idea. In a few days, the inflammation and swelling of the

sexual organs, and also the mania, had disappeared.—*Gall*, vol. iii., p. 201.

## CASE XCVI.

“With respect to disease of the cerebellum,” says Dr. Stokes, “the only means of determining its affections consists in first considering the seat of the pain, if any ; and, in the next place, the effect on the genital system.” After relating some cases showing the connection between the cerebellum and generative functions, he says : “A gentleman who was subject to constant and distressing nocturnal emissions, consulted his physicians, who, considering them to be the result of debility, prescribed various tonic and stimulant remedies. He used various preparations of iron, bark, camphor, opium, hyoscyamus, nitric acid, and many other things of a similar kind, but without advantage. From the fact of the failure of all these remedies, and the circumstance of his having complained of an occasional sense of uneasiness in the back of the head, his physician was led to think that his symptoms might have some connection with an excited condition of the cerebellum ; and, under this impression, had the back of the head shaved, leeched, and covered with a quantity of pounded ice. *From this time, his symptoms began to decline rapidly* ; and, in a fortnight, he was quite free from complaint. Now this case, taken singly, would prove very little ; but, when we view it in connection with the number of cases in which disease of the cerebellum has been known to be followed by excitement of the genital organs, it becomes of considerable importance.”—*Lectures on the Theory and Practice of Physic*, by William Stokes, M. D., Lecturer at the Park-Street Medical School, Dublin ; Physician to the Meath Hospital, &c., &c.—edited by Dr. John Bell : Philadelphia, 1840.

## CASE XCVII.

In No. XVII. of the *Gazette Medicale* of Paris, M. St. Martin writes, from Turin, that Dr. Ferroresi had obtained the cure of a young girl, who was afflicted with the most violent

nymphomania, and of two young men, who suffered from an incorrigible habit of masturbation, "by the simple application of ice to the back of the head, behind the occipital protuberance."—*Lancet*, May 2d, 1838, p. 168.

I now recall attention to the extract from Professor Smith's "Select Discourses" with which I commenced this part of my work—"I am acquainted," says he, "with no fact which tends to evince any especial connection between the cerebellum and the sexual feeling." Let the reader now decide whether the professor speaks from the abundance of his knowledge, or from utter ignorance and abounding prejudice. The facts I have adduced show—

That the energy of the amative impulse bears a constant relation to the development of the cerebellum;

That excessive development of the cerebellum predisposes to erotic mania;

That loss of both testicles causes a remarkable diminution in the bulk of the cerebellum;

That loss of one testicle causes a diminution of that lobe of the cerebellum situated on the opposite side of the body;

That diseases and injuries of the cerebellum are generally accompanied by disturbance, diminution, or extinction of the instinct of propagation;

That apoplexy of the cerebellum is generally accompanied by erotic phenomena;

That mechanical irritation of the cerebellum, either before or immediately after death, produces peculiar effects on the genital organs; and, finally,—

That remedies applied to the region of the cerebellum, affect diseases of the reproductive system.

If I am not lamentably in error, it is unquestionable that the evidence herein adduced to prove the cerebellum to be the organ of Amativeness, is as conclusive as that adduced by physiologists

over the circulation of the blood, or the functions of the heart or stomach. The proposition rises, it seems to me, self-

evolved, from the facts, with unerring reality and distinctness, stamped with every characteristic by which truth can be distinguished from error. How differently supported is the above doctrine from that advanced by Professor Smith, who, speaking of the semen, says : "To this fluid, love, however refined or sublimated, owes its existence." Against this, the fatal objections may be urged, that the emotion is felt before secretion has commenced, and after it has disappeared ; that it is felt by the eunuch, in whom it is destroyed, and by woman, in whom it never existed. Yet, in support of this assertion, the professor adduces not a single fact. Probably he deems his *ex cathedrâ* announcement sufficient evidence of its truth. The notable thing to be attended to here is, that, by him, and the like of him, is the truth-loving, fact-gathering phrenologist stigmatized as a freak-monger—a deluder of the people.

In conclusion, let me ask attention to a few inquiries which seem to arise naturally in this place.

First.—Does not the establishment of one peculiar portion of the brain as the organ of one special faculty of the mind, demonstrate the plurality of the cerebral organs ? This inquiry must certainly be answered in the affirmative. Is it not, then, in the highest degree, probable that each of the other mental faculties is, in like manner, dependent on a peculiar encephalic organ ?

Second.—If, as it appears, the phrenologists have rigidly followed the inductive method in ascertaining the seat of the organ of Amativeness, and if, as I have shown, they can prove the correctness of their conclusion by the most striking and diversified facts, are they not reasonably entitled to the presumption that they have been equally careful in prosecuting their other investigations, and equally correct in arriving at their other conclusions ? Have they not established their claim to be fully credited until their erroneousness be proved ?

Lastly.—If, with the foregoing evidence on record in relation to the connection between the cerebellum and the amative impulse, our antagonists avow their ignorance of a single fact

tending even to establish such connection, is it not fair and reasonable to infer that they are equally ignorant on other branches of phrenological doctrine? And when they declare that our doctrines are unsupported by facts, and are, consequently, false, does not this amount to a mere averment that they know nothing about the matter, and that, therefore, nothing is known? Their premises may be safely granted: of the soundness of their inference, let each reader judge for himself.

I here conclude my defence of a science to which I owe a large debt of gratitude. If it be successful in fixing on the new physiology of the brain, and its resulting mental philosophy, the attention of some leading minds, and in promoting the knowledge and investigation of them among professional men, I shall be glad at having taken this method of showing my regard for these most important discoveries—discoveries destined to be efficient means of purifying and elevating human character and institutions, and ameliorating the condition of our race.

THE END.

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